

The Reliability of UFO Witness Testimony

Edited by
V.J. Ballester-Olmos
Richard W. Heiden

UPIAR

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DEDICATION

Para Lucas: naciste pequeño pero llegarás a ser grande

V.J. BALLESTER-OLMOS

To Betty, the love of my life. During the past 30-plus years she has too often had to share me
with my interest in UFOs

RICHARD W. HEIDEN

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INTRODUCTION

*Some enchanted evening, You may see a stranger...
And somehow you know, You know even then
That somewhere you'll see her, Again and again*
Oscar Hammerstein¹

Preamble

On June 24, 1947, nine objects shaped “like a pie plate ... cut in half with a ... convex triangle in the rear”² were sighted from a private airplane by businessman Kenneth Arnold in Washington State, USA. The press coined the term “flying saucer” and it was accompanied by a huge journalistic coverage, giving rise to an avalanche of reports with objects described purely as saucers or discs, unlike what Arnold depicted to the Air Army Intelligence. The rest is history.

The short-lived, panic-type epidemic (“wave” in the ufological jargon) that followed this seminal sighting in America was not isolated in time, though. It had had many antecedents in the preceding 50 years, both in USA and abroad. For example, the 1896-1897 flow of “airship” reports, the 1910s “phantom ship” scare, the 1930s mystery airplanes, or the 1946 “ghost rockets” invasion. There is ample literature on those topics.³

Those celestial sightings are part of a continuum that runs back to the history of mankind, full of astronomical and atmospheric and optical phenomena taken as wonders and prodigies due to ingenuity, ignorance, and religious beliefs of population. The mystical interpretations of surprising and terrifying occurrences in ancient times have coupled with contemporary UFO observations to paint a tapestry of events that logically work against an extraterrestrial origin. The first flying saucer visions materialized from hidden fears of war from the US citizens. It was immediately followed by innumerable popular books, immense media attention, millions of magazine articles, and lots of movies that helped build a worldwide, contagious case. In modern times, people’s perplexity with unrecognized planets and stars, fireballs, aircraft, and a thousand other potential sky and biosphere stimuli, plus the inevitable quota of hoaxes, has been read and interpreted in a unique spirit: spacecraft coming from other worlds.

In the last seven decades, millions of people have reported seeing flying saucers or UFOs (now politically-correctly renamed UAP). The most reliable statistics for a scientifically controlled database estimate that only 2% of UFO reports remain unidentified after investigation, but the percentage is zero for any phenomenon defined with “strong consistency.”⁴

From 1947 onwards, lack of verifiable, anomalous physical evidence for the most dramatic manifestations of a “phenomenon,” untraceable permanent patterns in UFO data, and the disputed alien nature for the immortal UFO “residue,” as well as ongoing research, suggest a psychosocial hypothesis for the phenomena.⁵ In short, as far as UFO close encounter claims are concerned, all seems to be in the mind; the alleged incidents forming a global-scope legend or folklore in progress.

¹ “Some Enchanted Evening,” *South Pacific*, 1949.

² <https://pulp.hypotheses.org/1180>

³ V.J. Ballester-Olmos, “UFO Waves: An International Bibliography,” https://www.cnes-geipan.fr/sites/default/files/UFO_Waves._An_International_Bibliography__November__1__2015.pdf

⁴ <https://www.cnes-geipan.fr/fr/actualites/baisse-cas-d>

⁵ Thierry Pinvidic (ed.), *OVNI. Vers une Anthropologie d'un Mythe Contemporain*. Bayeaux (France): Editions Heimdal, 1993.

Nuts-and-bolts ufologists still holding their classical views, notwithstanding, other UFO believers have shifted their beliefs into a paraphysical, paranormal, and esoteric framework, necessarily to accommodate the apparition of supposed spaceships and alien entities with the absence of the required physical proof.

From the pioneering work of H. Münsterberg⁶ up to Neil deGrasse Tyson,⁷ the concept of witness reliability has been in question. Psychologists, psychiatrists, and social scientists have also entered UFO investigation. What mental phenomena would engender remarkably unusual, non-hoaxed imaginings? Literature in this field is already extensive, citing visual illusions, lucid dreams, sleep paralysis, temporal lobe epilepsy, hypnopompic and hypnagogic imagery, fantasy-proneness, dissociation, altered states of consciousness, false memory, post-traumatic stress, and hallucinations, as well as a number of psychopathologies.

In 1996, Newman and Baumeister⁸ promoted a discussion to help provide alternatives to the false “are they crazy or liars?” dichotomy. It was a clever proposition and this book attempts to continue this open discussion.

Aim

The acceptance of a true anomaly behind UFO sightings lies in the dogma that the testimony of witnesses is absolutely reliable, even if the stories told are abnormal by mainstream science standards. But this is far from certain; it is merely a presumption that matches the fantasies of the proponents. Single witnesses and shortage of material verification lie in the antipodes of how real-life works. Not only are there no error-free witnesses, but people’s imagination and prejudices can play unforgettable games on them. Peter Rogerson once alluded to “the usual doctrine of the inerrancy of eye-witness testimony.”⁹ UFO study presents us with a dilemma: disbelief vs credulity. The first is a minor sin (as it self-corrects with evidence). But the second—affecting most ufologists today—is a major obstacle to progress, because: how do you amend a blind belief in the nonexistent? This is what this book is all about.

The core of the enunciated phenomenon is not in automated or technological recordings (none of the myriads of photographs, films, videos, and digital imagery is valuable either) but on naked human testimony. In our considered opinion, future research efforts are to be focused on this raw material. That is the *raison d'être* of this group work, to exploring causes and functions of such visual chimeras. But not only that. How do anthropologists, historians, philosophers, physicists, and other scholars observe the “phenomenon” of UFO reporting? This book addresses this issue as well.

In this conjuncture, the present book’s purpose is to ascertain the opinion currently held by UFO study specialists and/or academics on the worth and reliability of propositions of extraordinary UFO narratives claimed to have been lived in reality. The plan is to hold a fresh

⁶ *On the Witness Stand*. New York: McClure, 1908.

⁷ *No matter what eyewitness testimony in the court of law, it is the lowest form of evidence in the court of science*. The Amazing Meeting, Keynote Speech, 2008.

⁸ Leonard S. Newman and Roy F. Baumeister, “Toward an Explanation of the UFO Abduction Phenomenon: Hypnotic Elaboration, Extraterrestrial Sadomasochism, and Spurious Memories,” *Psychological Inquiry*, Vol. 7, No. 2, 1996, pp. 99-126.

⁹ Peter Rogerson, “Neither sceptical nor scientific,” Magonia Review Blog, April 30, 2014. <https://pelicanist.blogspot.com/2014/04/neither-sceptical-nor-scientific.html>

inquiry from a wider spectrum of expertise. We purport to exhibit a state-of-the-art in the scientific examination of UFO tales, measured mainly, but not exclusively, from the perspective of social sciences.

It is not our objective to judge the behavior, ethics, motivation, or intention of UFO witnesses. We are just trying to assess the value of testimonies of weird tales when these do not harmonize with palpable evidence.

As UFO literature shows, many thousands of supposed witnesses do not report simple lights in the heavens but swear to have encountered machines that had touched down and were physically near. They remember it as a vivid, real experience—landing of objects with humanoid crews who on occasion also abduct their observers and practice malicious medical procedures. The assertion that these accounts are, in fact, extraterrestrial visits from alien races, is a false *teatro* acted in front of us all that merits urgent intervention of experts in psychology, as none of these situations has ever been substantiated by proof to convince society—least of all scientists—that they happened as reported. In sum, something that affects people, sometimes cruelly, cannot be left in the hands of charlatans, gullible people, fanatics and believers, UFO writers, UFO sects, or the UFO entertainment industry. It is a field mainly for social scientists.

If this ensemble of “experiences” is not untrue and merely fictional, what else is it? Can it be classified as a sickness that needs a cure or medical care? Literature has it that several psychological conditions generate similar stories or tales like the ones we have described. But is it possible to lay down the factors that yield or facilitate this class of alien encounter experience? Can we list them to help defining the problem?

Looking for an Etiology: AED

The *alien encounter disorder* (AED) is a non-pathological, short-lived, non-impairing, non-repetitive cognitive disturbance characterized by the “vision” of a flying object coming out of the blue, approaching the witness, hovering or landing at close range, with (optionally) emerging creatures showing absurd behavior, and taking off again speedily in a short time. The alleged contact may sometimes include communication (mental or oral), physical interaction, kidnapping, or abuse. There is a deficit of recurrent features in dimension, shape, dynamics, colors, noise, odor, aftereffects, etc. On the contrary, at the end of the day there are as many descriptions as informers, like particular cases of individual sociogenic episodes.

The usual situational and environmental features that boost and enhance the perceived occurrence of this unreal, but real-to-the-subject event, comprise a combination of these setups:

- * loneliness (single or dominant witness)
- * isolation
- * outdoors scenario (driving, in the fields, or alone in a rural home)
- * mostly nocturnal experience (~85%) (non-sleep-related), occasional daylight experience
- * while engaged in normal activities
- * standard reporting (not recovered via hypnosis regression)
- * media-inducement (publicity of similar events)
- * overexposure to UFO literature
- * closeness to active ufologists

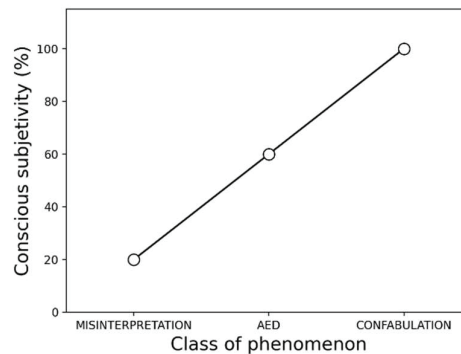
We are confident that the described candid encounters with visiting aliens are delusional experiences. These must necessarily be associated to common triggers. We presume that, in addition to the factual conditions listed above, certain personal or particular psychological conditions have to concur as well. Those precursors must be identified for diagnostic purposes.

Generally, this emotional condition occurs and vanishes, never to come back, but leaves a track of enduring false recollections, except in abduction claims, where an alleged abductee may claim repeated experiences.^{10,11} What is the mechanism behind it, one that crosses borders and cultures? Are the press, book, movie, and TV industries relevant in the spreading of this iconography? Most probably. This kind of abnormal cognitive episode has similarities and differences with other known psychological processes. It is akin to a dissociative disorder. On the other hand, it importantly differs from sleep paralysis, or the common bedtime occurrences of visitation episodes^{12,13}, as it manifests in the waking state at times when the subject is engaged in ordinary activities. It is one endowed with a very specific and essential scenario: the image of the arrival of extraterrestrial vessels with occasional beings performing idiotic behavior that soon board their celestial ships before disappearing.

To date, a poverty of psychological examination of “eyewitnesses” prevents us from determining if an array of certain common conditions, symptoms, or factors preexisted to what it is claimed as valid “observations.” They need to be identified and scaled for due recognition of cause to effect.

The theoretical condition we propose lies between the thresholds of the common observational errors and the conscious frauds and hoaxes. It contains a “creativity” input that can be defined as the subject’s own awareness on the elaboration of a virtual, unreal reality. Assessing the value of this creativity in someone’s mental process, simple misinterpretations rate much lower than AED, while complex confabulations rate much higher than AED. It could be illustrated as follows:

Misinterpretation < AED < Confabulation



Measurement of subject’s creativity for UFO CE event recreation

¹⁰ Kathleen Marden, “The MUFON Experiencer Survey: What it tells us About Contact and the Implications for Humanity’s Future,” in *Proceedings of the 2018 MUFON UFO Symposium*. Cherry Hill, New Jersey: MUFON, Inc., July 2018, p. 151.

¹¹ This would indicate that abductees suffer from a deeper psychological or psychiatric self-created trauma than observers to “normal” UFO landing sightings.

¹² David J. Hufford, *The Terror That Comes in the Night*. Philadelphia: University of Pennsylvania Press, 1982.

¹³ Andreas Mavromatis, *Hypnagogia. The Unique State of Consciousness between Wakefulness and Sleep*. London: Routledge & Kegan Paul Ltd., 1987.

A justification might be in order: rare diseases can affect as few as hundreds of people in the world, and yet those syndromes have a name. Distinct from generic paranormal visions and even from the stereotype of most UFO sightings (strange-looking lights in the sky), we estimate the set of UFO close encounters represents from 10^4 to 10^5 cases around the world's geography and language map.

Mental health professionals might recognize this as a new kind of dissociative disorder, a new class of false memory, or other conditions. But this one possesses very special and peculiar contingencies. We leave it to experts to frame it as required. Our only aspiration here is basically to highlight a very definite, particular occurrence that needs to be tackled on psychological grounds.

This disorder, for which certain people “experience” the landing of an extraterrestrial spacecraft that sometimes even comprises extreme manifestations as being kidnapped, leaves a deep impact on the “observer,” who sometimes also exhibits fear or anxiety symptoms. If the most dramatic close encounters, like abductions, were predicated on a previous mild/severe mental disorder, cognitive dissonance, stressful situation, etc., that would account for the post-traumatic stress syndrome apparently discovered in some subjects. It was not a vis-à-vis meeting with aliens that provoked it. It was a subject's prior state of mind that generated the imagined frightful experience, not any real kidnapping event. On this point, we also wish to signal that the impact of falsehood on the ensemble of extraordinary testimonies and narratives should not be disregarded.

There is an intricate, grey region stretching from hoaxes—accompanied by further inaccurate recollections and exaggeration—to the plain truth of actual events. Can the creation of UFO close encounters have its origin there? By its exceptional, distinct, and implausible idiosyncrasy, we doubt that there exists a memory of an unreal vision that explains the extraterrestrial visitation. It connects indissolubly to the flying saucer mythology, which has developed in a given time of history in a given cultural and social environment.

Contributions

A controversial topic by definition, diverging conceptions have surfaced, as expected, and the current compilation diaphanously reflects the situation today of the investigation into the UFO witness testimony. We did not elect to produce a monolithic volume. In fact, this book gathers together different sensibilities: some authors still leave the door open to any radium in the pitchblende, any signal among the noise. Those thoughts are not to be neglected, reflecting a most controversial issue. In our opinion, true research will finally accomplish the net solution that UFOs come from inner space, that they are just visions from within. The editors trust that this “view from the top” will render enough data and knowledge to advance the research field.

A comment on the presentation of papers. We heartily believe that content is far more precious than style. In that light, we have allowed for a certain freedom to authors in the way they choose to list their footnotes, references and/or bibliography. To force a complete uniformity would unnecessarily castigate our contributors, especially in a field where a unique set of globally accepted standards does not exist. We cannot admit the dictatorship of the bureaucrat-editor. Having said that, all papers conform to some pre-established, minimum formatting and writing guidelines, for the benefit of the reader.

Historically (in the last 75 years), collating the share from defenders of the alien source for UFOs with the skeptical response, the latter has been infinitesimal, and this is why the editors

have proactively invited some papers to refute a few major UFO stories. Yet this is not a debate. We look forward to showing the hidden face of the subject. Worldwide, UFO items in the general press amounting in the millions, pro views versus negative views can be probably assessed as 10^5 to 1. Dealing with more formal articles published in influential UFO journals and thematic bulletins and magazines, we would estimate the pro to con share to be 10^3 to 1 (0.001 rate).

In the 2000s, the world's population has been overdosed with UFO documentaries stimulating the belief in aliens without any solid grounds, just for the sake of sensation and thrills. On several TV channels, well-paid script writers have inundated viewers with fantasy-filled films where pseudo-investigators swamp an innocent audience with shoddy disinformation, where every piece of history becomes UFO lore. People—with no assessing criteria—consume those programs and tend to develop false mental sets and beliefs more akin to religious beliefs than scientific fact.

The consequence is an alarming excess of pro-UFO materials facing any audience, both laypeople and academics, in spite of the overwhelming outcome that painstaking work by saucer addicts has not yielded any material proof. On the contrary, rational investigation by skeptical-minded researchers has demolished important milestones in the most reputed UFO ammunition collected by UFO enthusiasts, but it is generally buried in the turmoil of alien credence.

This collective book is admittedly oriented towards balancing this situation, although researchers directly or mildly supporting an unconventional origin for UFOs also participate in this volume. This opus is skewed towards the psychological rendering of UFO testimonies that apparently avoid a prosaic character, in line with academia-based UFO work, where its pro to con relationship would be 1 to 9 (journal papers¹⁴) or 1 to 5 (for theses and dissertations¹⁵). Ratios of 9.0 to 5.0 in the scientific and university arena vastly opposed to 0.001 in the amateur press.

Contributors

It might be pertinent to disclose the methodology involved in selecting our roster of contributors. Over six months we did a comprehensive literature review and searched all known articles published in scientific journals and books directly or indirectly related to witness reliability. It was followed by an exhausting hunt of authors' email addresses. Not a small number were untraceable. Finally, we submitted a Call for Papers to 348 scholars, academics and experts, most of them associated with universities. We collected 162 replies, 57 in the affirmative. Those papers correspond to 60 different writers from 14 different nations. Invitation was granted based on an existing record of research in this area, not for any beliefs, sentiments or postures held.

After paper submission, we have surveyed our contributing authors as to their position with regard to the existence of a UFO phenomenon as a real entity unknown to present science, based on their extended research experience and study. To that end, three broad, admittedly very simple categories were established:

¹⁴ George Eberhart, E-mail to V.J Ballester-Olmos, January 13, 2022.

¹⁵ Paolo Toselli, E-mail to V.J. Ballester-Olmos, January 17, 2022.

D for Disbelief (skeptical, denialist stance)
A for Acceptance (belief, positive, possible)
NC for Non-Committal (neutral)

The clusters formed by participating writers provided these data:

<i>D</i>	39
<i>A</i>	4
<i>NC</i>	17

The editors expect that the present volume will foster fresh research on issues of UFO observation and interpretation. Such research will help us to develop a much better understanding of perception and cognition in both typical and atypical realms. We are convinced that the “UFO event” is essentially a psycho-sociocultural phenomenon, without any physical reality (other than misidentification of mundane stimuli). The design of this book, however, has been open-minded enough to consider work from different or contrary viewpoints for a richer outlook. Yet we certainly do not pretend that all our colleagues agree with our judgement or evaluation; after all, this is an unfinished field of investigation.

We believe that a few words—or tabulations—on the book’s authorship will be information the reader will appreciate. To this end, we have built the following tally of countries from contributors and contributors by professional specialization:

<i>COUNTRY</i>	<i>USA</i>	<i>FRANCE</i>	<i>SPAIN</i>	<i>GERMANY</i>	<i>BRAZIL</i>	<i>UK</i>	<i>BELGIUM</i>
NUMBER	22	9	9	3	3	2	2
<i>COUNTRY</i>	<i>ITALY</i>	<i>CANADA</i>	<i>INDIA</i>	<i>MONACO</i>	<i>AUSTRIA</i>	<i>RUSSIA</i>	<i>JAPAN</i>
NUMBER	2	2	2	1	1	1	1

<i>FIELD</i>	<i>PSYCHOLOGY & PSYCHIATRY</i>	<i>ENGINEERING & PHYSICS</i>	<i>EDUCATION</i>	<i>MATHS & COMPUTERS</i>	<i>MEDICINE</i>	<i>HISTORY</i>	<i>ANTHROPOLOGY</i>
NUMBER	25	9	5	5	3	3	2
<i>FIELD</i>	<i>SOCIOLOGY</i>	<i>OTHER SOCIAL</i>	<i>RELIGION</i>	<i>JOURNALISM</i>	<i>MILITARY</i>	<i>OTHERS</i>	
NUMBER	1	2	1	1	1	2	

This book splits into seven sections, with the following number of chapters by section:

- I. Case Studies: 17 chapters
- II. Psychological Perspectives: 12 chapters
- III. On Witness Testimony: 14 chapters
- IV. Empirical Research: 7 chapters
- V. Anthropological Approach: 3 chapters
- VI. Metrics and Scaling: 2 chapters
- VII. Epistemological Issues: 2 chapters

The intent of this introduction is not to inspect, scrutinize or measure up the contents of this book. We leave that to our wise audience. However, there is an observation that inevitably surfaces immediately: all chapters in the Case Studies section, reporting about actual field work (as opposed to theoretical papers) bring negative results on the reality of reported stories. One would rather anticipate, if the evidence really existed to support true high-strangeness UFO accounts (like landings, kidnappings, or encounters with humanoids), that researchers would massively supply papers on extraordinary close-range UFO events where no psychological interpretation is required. That has not happened. The contrary situation emerged. This is a real-life fact to ponder.

UAP Study

With the increasing attention and propaganda about the US Department of Defense UAP study,¹⁶ reports of the type that were numerous in past decades may crop up again, especially in the USA, where NASA and the AIAA have just decided to inquire into the old flying saucers, UFOs, now UAP. According to recent published polls, “four in 10 Americans think UFOs are alien spacecraft.”¹⁷ Such is the impact of fanciful, mass-reaching books and TV documentaries. And it is expanding. The trend is that we could revive the UFO craze of the last century.

Life has cycles and currently we are reliving something that we consider is completely resolved. Media-ventilated interests, and well-rooted obsessions by a few politicians, scientists, journalists, and some characters from the intelligence business (not always intelligent), have combined to resurface a positive climate for another—21st century style—US Government evaluation of the subject-matter. What has objectively changed to make that happen? Basically, the sensationalist publicity granted to a few UFO sighting reports (sorry, UAP) from US Navy pilots. Not so strange, considering that today the number and kinds of man-made flying objects in our skies is so abundant, as is the use of detection and recording sensors in modern aircraft that probably require testing and adaptation for non-standard situations.

As a consequence of clearly flawed, biased, and self-interested advice, the United States DoD is tragically starting from zero. All the know-how acquired in the last decades has been dumped. No one seems to have learned from prior experience. Decades of major strange-looking sightings solved after scientific and technical scrutiny, or simply by common sense, is unacknowledged. All this is forgotten. We hope investigators of the DoD UAP research unit, the All-Domain Anomaly Resolution Office (AARO), implemented on July 20, 2022,¹⁸ follow the resolution part of its name.

Hereafter

We encourage social scientists to perform future research by interviewing AED reporters to identify and discriminate its definitional properties aimed at establishing a proper line of attack. If there is a diagnosis for factors that boost certain persons to create such *mise-en-scène*, professionals must seek it. Some UFO encounters have an idiopathic nature because those who should have investigated it (ufologists) properly show severe apophenia, perceiving (believing) meaningful connections among fully unrelated events.

It may be unlooked-for, even funny, to discover that the maximum strangeness posed by UFOs and UAP does not concentrate in the F for flying or the A for aerial in those acronyms. For it is the close-to-ground and close-to-observer UFO incidents that lead up to the allegation of an alien origin. We estimate a current database in the region of $\sim 10^5$ reports worldwide, with probably 10% of them abduction cases.¹⁹ However, in spite of the large difference in prevalence, scientific literature on abductions is very much abundant (but quite scarce in in-

¹⁶ V.J. Ballester-Olmos, “A Commentary to the 2022 UAP Act,”

https://www.academia.edu/69401447/A_Commentary_to_the_2022_UAP_Act

¹⁷ <https://news.gallup.com/poll/350096/americans-believe-ufos.aspx>

¹⁸ <https://www.defense.gov/News/Releases/Release/Article/3100053/dod-announces-the-establishment-of-the-all-domain-anomaly-resolution-office/>

¹⁹ It could be worse. Interpreting a 1998 Roper poll, up to four million Americans would claim to have been actually abducted by extraterrestrials (Susan Blackmore, “Abduction by Aliens or Sleep Paralysis?” <https://www.susanblackmore.uk/wp-content/uploads/2017/05/Abduction-by-Aliens-or-Sleep-Paralysis.pdf>).

Precisely speaking, out of $\sim 6,000$ queried, 20 respondents said they had been abducted by aliens. (Peter Brookesmith, “Roper’s Latest Knot: the 1998 Abduction Survey,” *Anomalist* 8 (2000), pp. 32-38.) Figures today would be much higher. It could be your nice neighbor next door.

depth case studies). As raw “landing” or “close encounter” reports are much more frequent, we feel this field demands deeper exploration, focusing both directing the investigation on “experience” and “experiencer” and doing theoretical and psychometric work.

From the beginning, “ufology” has been ill-aimed, not hearing early academic advice: “We are faced with a problem amenable more to the methods of the psychologist than to those of the physical scientist.”²⁰ Already in the 1980s, some scholars also invited the participation of psychologists into this area of investigation: “...indirect investigation of new sightings would be carried out by two field teams, each composed of a physical and a social scientist with experience in interview techniques.”²¹ To no avail. Ufologists are obsessed with interplanetary or ultra-dimensional sources.

Let us return to the beginning and look forward toward the near future. As acknowledged, in July 1947 there was a flurry of what were then popularly known as flying saucers or flying discs. Troubled by the new development, the US Air Force began to study those reports—for better or worse—and named them UFOs. 75 years have passed without any irrefutable evidence proving that UFOs are anything other than trivial, unrecognized phenomena (IFOs). The alternative to a physical phenomenon is not the ruse of para-physics, it is non-existence. As a matter of fact, tales of unexplained cases parallel those of explained cases, that is, statistically and qualitatively, we cannot discern UFOs from IFOs. We arrive at the ontological principle of the identity of indiscernibles. To complete this, a robust literature, Ph.D. dissertations,²² and work in disciplines like psychology, history, anthropology, sociology, or folklore have solidified a psycho-social theory to account for the occurrence of the UFO phenomena.

In issues of science and knowledge, we cannot be neutral. Man’s evolution is unequivocal. The Earth is not flat. We have been on the Moon. Covid-19 is a pandemic and vaccines are the only remedy. The editors of this volume do not hide that over long years of non-stop investigation on this topic, our stand is not supportive to intelligent extraterrestrial life interacting with earthlings (much less that humans are being snatched away by aliens). We do enthusiastically support, however, SETI and CETI efforts. The binomial UFO = alien is unsustainable, evidence-wise. On the contrary, everything points to a psycho-social movement, a myth in progress, even a religion in certain quarters. We are convinced that UFO close encounters and abductions are mainly a sub-discipline of “anomalous psychology” (as termed by Professor Chris French).

From our standpoint, the fact that a percentage of participating authors declare a neutral position or even a positive position regarding UFOs as a potential phenomenon of unknown origin signifies that substantial additional research is still required to appraise if there is any basis for unexplained UFO sightings to be an exotic phenomena akin to plasma, or—strictly concentrating on “close encounters”—if reported events represent some type of eccentric, neuro-psychological problem still undocumented in the literature. Extraterrestrials discarded, without hesitation.

²⁰ Dr. Roger N. Shepard, *Hearings before the Committee on Science and Astronautics*, U.S. House of Representatives, July 29, 1968. <https://tinyurl.com/59w9yz5c>

²¹ Peter Wadhams (Scott Polar Research Institute, University of Cambridge, United Kingdom), *The Journal of UFO Studies*, Vol. II, 1980, page 4. http://www.cufos.org/jufos_price.html

²² Paolo Toselli, “University UFO Theses & Dissertations 1948-2022.” http://www.cisu.org/wp-content/uploads/2022/12/ufotheses_by_paolo_toselli_updated_23122022.pdf

We expect that the present volume will assist current-day UFO/UAP students by adding essential intelligence needed to examine and evaluate close range incidents under a proper perspective. We hope we do not need another seven decades to settle this question.

V.J. Ballester-Olmos
with Richard W. Heiden

FOREWORD

My older sister was recently downsizing a bit (good for her) and came across a bundle of letters from the 1970s. One was from my father, about a trip to the Amish country that the rest of the family (he, my mother, my younger sister Alisa, and I) had just taken. “All of us except Alisa,” he wrote “saw a shiny disk-shaped UFO which suddenly disappeared.”

I have no memory of that incident.

But if you’re a certain kind of person, with a certain kind of belief system, the discovery of this letter could suggest an answer to some questions. How did Leonard Newman, as mainstream an experimental social psychologist as one could find, end up studying and writing about UFOs? And of all things, why the alien abduction phenomenon? Clearly, something significant happened to him that day in Pennsylvania—something he can’t remember, something he probably doesn’t *want* to remember. Spotting the shiny disk was just the beginning, a prelude to a more intimate encounter with whoever or whatever was inside the spacecraft. Is he actually an abductee? Could writing about the phenomenon be his way of dealing with repressed memories of his own capture and subsequent painful and humiliating medical examination?

I don’t think so.

The real story is more mundane. At some point in the early 90s, my mother passed on to me a copy of *The Skeptical Inquirer*, an issue that happened to contain multiple articles about the alien abduction phenomenon—specifically, about the growing number of people who had concluded that they had been taken against their will, roughly treated, and stripped of their dignity by extraterrestrial beings. It would be reasonable to ask why she had an issue of the magazine in the first place. But my mother is a voracious, even obsessive reader. If there was nothing else at hand but copies of *Cigar Aficionado* or *Golf Digest*, she would undoubtedly spend a couple of hours making her way through them despite never in her life having smoked a cigar or picked up a golf club. So why *The Skeptical Inquirer*—who knows? And why did she pass it on to me? Because she was always doing that. She pretty much had to. If she held on to all of her reading material, she and my father would have needed to rent a warehouse to store it all.

I had just begun a post-doctoral fellowship at Case Western Reserve University with Roy Baumeister, who at the time was writing extensively about what he called “escaping the self.” Specifically, Roy argued that the self and its demands—to be liked, to be respected, to be competent, to be successful—can be burdensome. Too bad, though, because as you’ve undoubtedly heard, you can’t run away from yourself—except maybe you actually *can*. Roy made the case that a number of otherwise paradoxical human behaviors could be understood as ways for people to avoid having to focus on, regulate, and judge who they are and how they are seen by others. In other words, they could be understood as ways to escape the self. One of those odd practices was masochism. As I read those articles about the abduction phenomenon, I became intrigued with what I perceived to be parallels between the abductees’ narratives of their experiences and central aspects of masochistic fantasy. More on that later.

If you're that certain kind of person, with that particular belief system, you must be saying "Of course that's the story he prefers—he's a skeptic!" And indeed that's how I would describe myself, as would many of the contributors to this volume. And we all know about skeptics. They refuse to believe that anything outside the ordinary could ever happen to anyone; in fact, they don't *want* to discover anything that would challenge their narrow view of reality. Skeptics go out of their way to avoid the possibility of having any sort of experience that one might call paranormal. They can't understand why "believers" would spend so much of their time and energy exploring subjects like UFOs, and find interest in such topics to be absurd, even contemptible. And they wouldn't know an alien if (as the old saying goes) one bit them in the ass.

Well, I'm guessing that I would know an alien if one bit me in the ass—but none seems to be interested in taking a bite. More to the point, that caricature of skeptics and their fellow travelers includes at least two misconceptions that really should be addressed. Please read Craig Myers's (this volume) account of encountering a spectacle that he simply "could not grasp." He was stunned by the sight of "strange shape-shifting blobs of light as they moved back and forth, round and round, across the night sky seemingly in or behind the clouds," doing a "dazzling dance." Does he come across to you as someone *not* open to an awe-inspiring, life-transforming experience? Or does he instead sound like someone excited about the possibility of finally witnessing something that would upend all of his previous assumptions? Of course, in this case, "the source of the show" was "a car dealership using giant rotating spotlights to draw attention to a sale." The point remains that skeptics are certainly open to awe and wonder and would be just as excited as anyone else to come face to face with the incredible. Can anyone doubt that Alexander Keul (this volume) would pay any price to be able to regularly witness ball lightning? Nonetheless, we "cannot simply believe the stories that anyone tells us, especially those of an extraordinary nature that would force us to reevaluate established knowledge" (Ballester-Olmos, this volume). And we remain perplexed by those who "do not even search for reasonable explanations for UFO reports and accuse those doing it of being debunkers" (Borraz, this volume).

As for the idea that skeptics scoff at those who would express interest in UFOs and in the people who claim to encounter them, let me state the crushingly obvious. The contributors to this book include some very smart people. There are all sorts of issues to which they could be devoting their intellectual energy, and all sorts of scholarly and research contributions they could make. They don't have to write thoughtful and rigorous chapters for a book called *The Reliability of UFO Witness Testimony*, but that is what they have done. The fact is that most people do not actually care all that much about UFO sightings and alleged alien encounters, and don't make it a priority to learn more about them. The UFO phenomenon is something that enters their awareness primarily when they happen to come across a television show devoted to the topic while they're flipping through channels looking for something else to watch. Not so the contributors to this book. With whom else could you have an informed and intelligent conversation about the discrepancies in the description of the Pascagoula abduction (Nickell, this volume) or the video evidence for the Phoenix Lights (Callahan, this volume)? Skeptics are knowledge-seekers. Admittedly, our knowledge often leads us to conclusions that are uncongenial to believers, like "the hard truth that eyewitnesses are capable of extreme errors at odds with the real events and other observers," and that there is "abundant evidence that hypnotist and subject can confabulate elaborate stories of events that never happened" (Bullard, this volume; see also French, Ickinger, this volume). But skeptics have put in the time and effort that has allowed them to reach those conclusions because

they believe that UFO-related phenomena are important to study—and “so important that they can’t be left to the imagination of creative minds. They deserve the assembled intellect and wisdom of all of the contributors to this volume along with everyone else who honestly wants to know the truth.” (Haines, this volume).

A note to believers, then: you may see skeptics as being your worst enemies, but at least try to consider the possibility that they *might be your best friends*. For example, I do not know of any data that could confirm this, but I suspect that if a survey were taken of the general public, and respondents were asked to pick what seemed to them to be the most probable explanation for the alien abduction phenomenon, the most popular answer would be something along the lines of “those abductees are ‘crazy.’” Skeptics have provided many accounts of why people might come to believe that they were abducted by aliens, and how and why they might construct elaborate memories of the experience. One thing the large majority of them have in common, though, is that even if they do not necessarily assume that abductees are “representative of the general population” (Mavrakakis, this volume), they also do not assume that abductees are people with severe (or any) mental illnesses (but see Perrotta, this volume, for a different perspective). In that sense, then, witnesses, abductees, and other experiencers can expect more respectful treatment from skeptics than from the average person.

And now, a little more about one of those accounts. Much has been written about how people might, for all sorts of reasons, wonder if some mental, emotional, or behavioral problem they are struggling with could have its roots in a strange and disturbing (but unremembered) past experience; why they might come to entertain the hypothesis that that strange and disturbing experience involved extraterrestrials; and how a variety of “memory recovery” procedures could lead to pseudo-confirmation of that hypothesis. But what would account for the readiness of so many people to embrace and elaborate on the classic abduction narrative? That narrative involves being restrained or otherwise unable to move; undergoing treatment that most would consider to be humiliating, including being disrobed, displayed on a table, and having one’s orifices probed and penetrated; and physical discomfort and/or pain. Most people who have considered the matter are content with nothing more than the following: if that’s the kind of story floating around the culture, and if the person facilitating the memory recovery procedure is also familiar with it, then that’s the kind of story people will tell when they try to recall their abduction experiences. But there’s a long history in psychology of taking seriously the idea that the stories people tell about themselves, especially in response to ambiguous stimuli (including memory fragments), can reveal something about their needs, fears, concerns, and desires. From that perspective, what can we make of these demeaning, degrading, and debasing abduction stories?

As Roy Baumeister and I noted, a number of commentators have taken the nature of the abduction narrative as being indirect evidence of the stories’ validity. Because after all, who would want to believe something like that happened to them? What would motivate someone to construct a memory like that? What purpose could it possibly serve? Who would wish to have an experience of that kind? But as we explained,¹ there are lots of people who fantasize about very similar experiences, and even pay lots of money to have them: masochists. Masochism involves bondage

¹ L.S. Newman & R.F. Baumeister (1996). “Toward an explanation of the UFO abduction phenomenon: Hypnotic elaboration, extraterrestrial sadomasochism, and spurious memories.” *Psychological Inquiry*, 7, pp. 99-126.

and restraint, humiliation, and of course, pain and discomfort. In our papers on the topic, we elaborated on what seemed to us to be the remarkable number of parallels between the classic alien abduction narrative and masochistic fantasy/activity. At the very least, we demonstrated that the physical and psychological experiences described by abductees are not in fact unprecedented in human imagination and fantasy. Furthermore, we suggested, it would be reasonable to assume that whatever needs and desires motivate masochism (which Roy had argued involve a desire to escape the self) also play a role in motivating people to construct memories of alien abductions.

It would be nice to say that this idea was met with universal acclaim (“They finally cracked the code!”). Well, not exactly. But in that respect it has much in common with most *other* theoretical perspectives on the alien abduction phenomenon. It’s never been clear to us why our analysis has met with so much resistance, but Noll’s comments (this volume) are surely relevant:

So much of what passes for scientific “explanation” in specific abduction cases involves arguments by analogy. Abduction stories “resemble” the phenomena of sleep paralysis, Lewy body dementia, false memories, fantasy-proneness as a personality trait, psychosis-like experiences or whatever—that sort of claim. We can endlessly pull analogies to scientific or medical phenomena out of our magical hat (or out of our lower bodily orifice) to soothe our epistemic anxiety, but the proof has to be in the pudding and it isn’t there.

And so, the work continues, as attested to by the papers in this volume. I’m not sure if there exists any collection of papers on any topic that can claim to comprehensively summarize everything that is currently known about it. But this one comes pretty close.

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I

CASE STUDIES

Memory Games: A False Recall Episode

V.J. Ballester-Olmos

Abstract: The event under study appears to be of an exceptional nature. Though initially undefined by the witness, it was later purported to correlate with a more than modest UFO sighting that occurred in the middle of the Spanish summer and that remained unexplained due to lack of information. Subsequent telephone and e-mail interviews with the witness over the years revealed astonishing new sighting data. A press search yielded an unexpected solution to one part of the witness's account. Analysis of the narrative suggests that the event is consistent with a false memory incident.

Keywords: UFO sighting, UFO landing at sea, Military intervention, False memory, False recall

Preamble

Extraordinary claims are usually revealed to be one of three very different things, depending on the approach, the beliefs and the scientific culture of the person investigating them: evidence of an inexplicable and intelligent UFO phenomenon; an example of malicious invention; or a misrepresentation of the facts by the well-intentioned narrator. Much of the support for the extraterrestrial UFO myth is based on the ignorance, credulity or incompetence of the ufologist on duty—often one who is incapable of critically filtering the adventures he hears and then writes them up as authentic. Facts are not corroborated by repeating the claims of others, no matter how many photos of the locations and the subject are included, as yellow journalism typically does.

In the present case, a person who claims to have witnessed a phenomenon published in a newspaper confers on it a series of very strange and unique characteristics. Should we take him at his word? We only have his personal testimony, although he assures us that two members of his family, some neighbors and a large number of other people took part. But we have no statements from any of the other possible witnesses, nor any clues to their identity, nor even any other confirmation of these remarkable events.

The purpose of this publication is to provide all the available information: the “high strangeness” version provided by this alleged observer (which lacks corroboration), the published event to which he links his alleged experience, and an authentic, documented phenomenon that could potentially solve the puzzle. It raises questions that emerge in most of the weirdest, single-witness UFO accounts: are the stories true? What position should the investigator hold during the investigation: blindly believe in an unconfirmed, unproven story, or follow a skeptical approach to identify an underlying psychological ontology? Undoubtedly, the latter is the preferable tactic, out of pure logic and common sense, couched in scientific knowledge.

Chronicle of a UFO Sighting

On the night of September 30, 2014, a message from one “José A. Rubio” arrived in my inbox, which I reproduce here. I have added some details of my own in brackets and have highlighted in bold some of the most sensational information in the story.

Dear Mr. Ballester, my query refers to an event that occurred approximately 20 or 25 years ago. Lately I have come across eyewitnesses like myself to this phenomenon, and we have exchanged impressions, agreeing in all the details. So, after giving it some thought, I'm going to delve a little deeper into the subject. The incident occurred in the Mar Menor¹ area around midnight. My mother, a first cousin, and I were chatting on the balcony of the house [town of Los Nietos, Murcia. Spain] overlooking the beach, when suddenly we saw a bright object descending from the depths of the starry sky at high speed, leaving a trail of light until it stopped in the center of the Mar Menor **10-50 m from the water**. It remained in this position for a few minutes, so we were able to observe it carefully. It had a **spheroid shape** although this was not defined due to the light it gave off; the light it radiated was mainly whitish although laterally it radiated many other shades such as green, blue, and red, among others. Its approximate size could have been **between 20 and 30 m in diameter** and its deceleration to reach sea level from the sky was instantaneous.

Upon seeing this we were surprised and aware that this object was of no known origin and that we were witnessing something extraordinary, so we ran up to the roof of the building to get a panoramic view of the entire Mar Menor. After a few minutes, the object moved southward about two nautical miles [3,700 m] at such a speed that it did so in a fraction of a second, and with **equally instantaneous acceleration and deceleration**. It remained at rest until we could see a **Guardia Civil² speedboat** approaching plus another we could not identify. **At a distance of about 500 m, they turned on the boats' spotlights** which illuminated the object, but they were unable to approach because it began an evasive maneuver.

While this was happening, we heard two aircraft fighters (I think they were F-1s) take off from the San Javier air base [~18 km away], although we couldn't see in which direction they initially headed.

The object, which had embarked on the evasive maneuver away from the ships, moved north about five miles [9,300 m] at the same speed, reaching sea level also very close to San Javier. There it remained until **the fighter-bombers flew over it** a few minutes later, and then it moved back to the center of the Mar Menor, where it had initially stopped. It was in that position only for a few seconds while the jets returned, and finally took off with the same extraordinary acceleration whereupon it disappeared in the sky, leaving a small yellowish trail in the upper layers of the atmosphere.

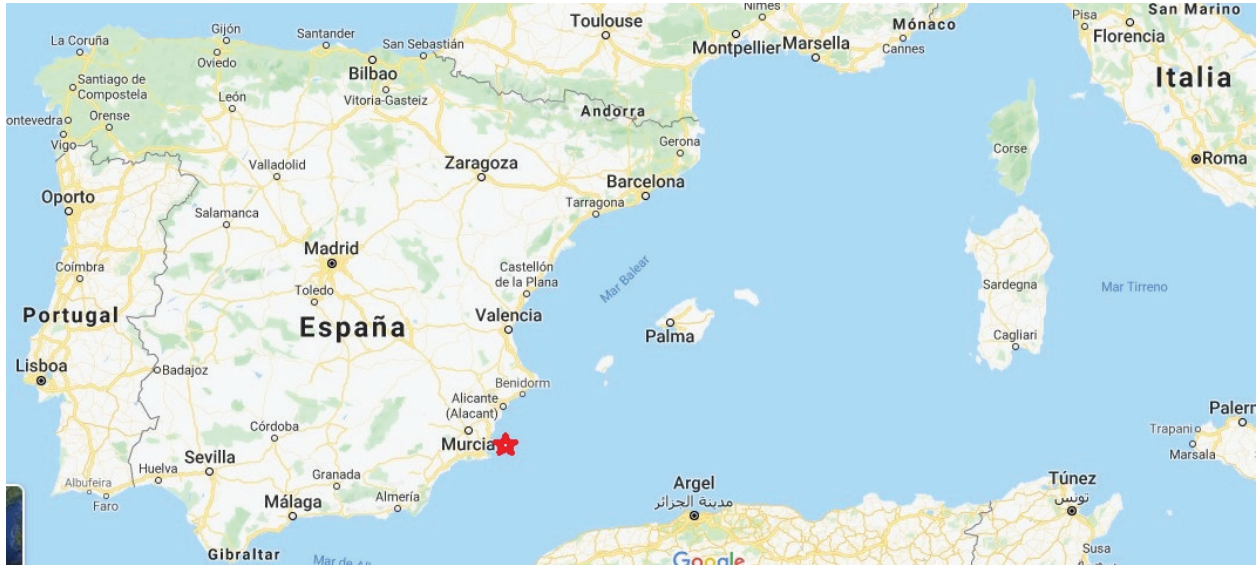
The next day, as is logical, we watched the television news, but nothing was reported. We went to buy the newspaper, and **the event was described by the authorities as a sounding balloon that had fallen into the Mar Menor**. Some years later I joined the Navy; I have personally launched weather balloons so I can describe them in detail. There was no more news.

This is the full account of the experience. Over the years my curiosity has faded, but recent conversations with witnesses have encouraged me to get down to work. I intend to visit the archives of La Verdad newspaper to recover the news, also to contrast the details of the sighting with the witnesses, and to ask UFO researchers in Spain if they have any data on this sighting. So, having said this, please let me know if you have any information about it.

¹ Mar Menor is a coastal saltwater lagoon located south-east of the Autonomous Community of Murcia, Spain, near Cartagena. With a surface area of 135 km², a coastal length of 70 km, and warm and clear water no more than 7 m in depth, it is the largest lagoon in Spain. The lagoon is separated from the Mediterranean Sea by La Manga, a sandbar 22 km in length whose width ranges from 100 to 1,200 m, with Cape Palos at its southeastern vertex making for the lagoon's roughly triangular shape.

² The oldest law enforcement agency in Spain: [https://en.wikipedia.org/wiki/Civil_Guard_\(Spain\)](https://en.wikipedia.org/wiki/Civil_Guard_(Spain))

The witness insisted that it had been a multiple-observer sighting, seen that summer from the towns of La Manga, San Javier, Los Alcázares, and Los Nietos (where the observer and his family were located).



The location of the alleged sighting in Spain and the Mediterranean sea. Credit: Google Earth.

For validation, he sent me the fragment of a conversation that he found in an internet forum dated August 11, 2010:

HELLO, I LIVE IN MAR DE CRISTAL [2.4 km to the ESE of Los Nietos] AND ABOUT 20 YEARS AGO A DEVICE THAT I ASSURE YOU WAS NOT FROM THIS EARTH WAS SEEN FOR A LONG TIME AND FROM SEVERAL AREAS OF THIS RESIDENTIAL COMPLEX, EVEN MY PARENTS WHO AT THAT TIME WERE NOT WITH ME BUT WHO WERE IN MAR DE CRISTAL COULD SEE IT VERY CLOSELY NEAR THE EXIT OF ISLAS MENORES, THEY TOLD ME WHEN THEY GOT HOME IT WAS PERCHED ON THE SEA A VERY FEW METERS FROM THE SHORE, AND ANYONE WHO WAS IN MAR DE CRISTAL AT THAT TIME CAN CONFIRM IT BECAUSE PRACTICALLY THE WHOLE COMPLEX SAW IT, EVERYONE KNEW ABOUT IT.

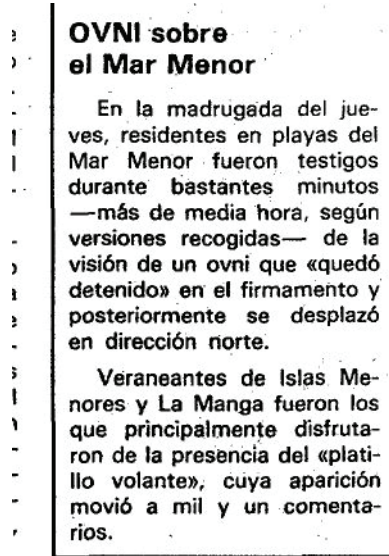
This is an anonymous testimony that speaks of a case in the Mar Menor around 1990! Another reader of the same forum reported having seen the same thing from Cabo de Palos (7.3 km ESE of Los Nietos). When? By whom? But my informant does not “need dependable witnesses since I saw it with my relatives and remember it perfectly. I have even contacted 20 or 30 neighbors who remember it.” Yet the only truth—as we will see later—is that over six years of e-mail exchanges and phone calls, he has never been able to give so much as the name of any other person involved.

Initial Checks and Remarks

From the outset, the declarant assumes the extraordinary nature of the phenomenon and classifies it as of unknown origin. In fact, by his way of describing the movements of the object, he assigns it intelligent intent. This indicates that he has clearly drawn a personal conclusion, despite the fact that he also consults “experts” for their opinions.

My reaction to his first e-mail was to ask him to further refine the date. 20 or 25 years before 2014 would place us anywhere between **1989 and 1994**. He responded with certainty that it was in July

or August, at midnight, and adjusted the period to between **1985 and 1990** (five years earlier than originally estimated). Days later, the witness wrote that he had managed to locate the event in the Murcia press: *La Verdad*, August 16, 1986, page 11:



The very brief news item translates as follows:

In the early hours of last Thursday morning [August 15, 1986], residents of the beaches of the Mar Menor witnessed for several minutes—more than half an hour, according to the reports collected—the sight of a UFO that “stopped” in the sky and subsequently moved northward.

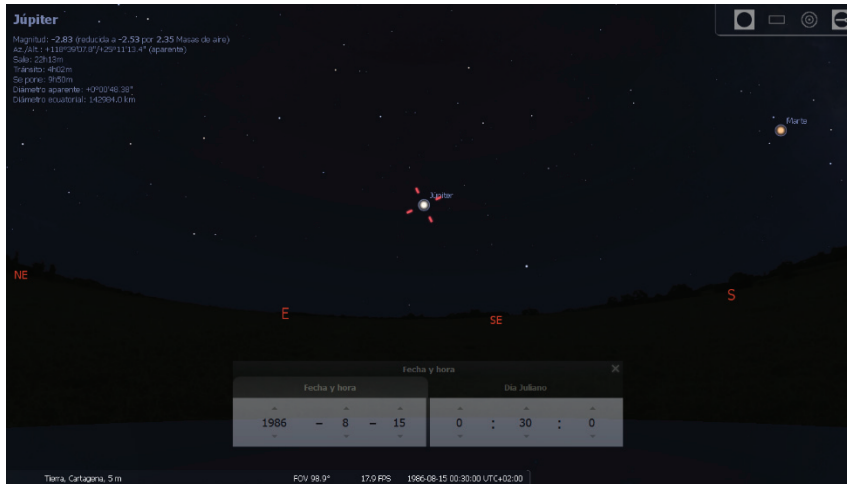
The vacationers of the Islas Menores and La Manga [Mar Menor] were those who most enjoyed the presence of the “flying saucer,” whose appearance sparked a thousand and one comments.

If it is the same event, given that the informant states that it occurred around 12:30 a.m., we could place the phenomenon at some time between 0:30 a.m. on Thursday August 14 and Friday August 15, 1986. The same newspaper column that broke the news of the UFO “in the early hours of Thursday morning,” also published a brief note about the unfortunate death of a little girl when she ran into a glass door that same Thursday afternoon. Our witness claimed to recall with certainty that the UFO observation happened the night she died. If so, it would have been early on the 15th.³

According to this very poor press report, what happened is far removed from what the witness claimed. It speaks of a “UFO that stopped in the sky,” not at sea level. That night, Mars was shining in the sky (magnitude -2.04) at 22° above the horizon in the SSW direction. A little higher (25°) and to the ESE, was Jupiter, at its brightest (magnitude -2.83). This latter planet would be an ideal candidate for a misinterpretation, although its movement in the celestial vault is from East-West,

³ Page 18 of the same newspaper—Saturday, August 16, 1986—carried an article by Sánchez de la Rosa entitled “La pocilga y el ovni” (The pigsty and the UFO), in which a temporal coincidence was established between the viewing of a film by Italian director Pier Paolo Pasolini on TVE (the main channel of Spanish television, “Midnight Movies”) and the sighting. It so happens that this program was broadcast on Fridays, after midnight, that is, already on August 16. There is a day’s difference between both references, published on the same day in the same newspaper (or even two, if we consider the “early hours of Thursday morning” as the first hours of August 14, which seems to me too much margin of error).

not towards the North, as indicated by the press. An orientation error made by the vacationers that August?



The sky at 00:30 on August 15, 1986, with Mars and Jupiter prominently bright. Stellarium sky chart centered on Jupiter.

But I am not particularly concerned about finding a solution to a single point of light that summer, an inconsequential UFO sighting, surely of astronomical origin given its long duration. What is important to note here is the absence of any mention of the intervention of a Guardia Civil boat lighting up the object and even less the appearance of two Air Force fighters, features that would not go unnoticed by any editor. Not only that, if the events had occurred as described by our “witness,” it would have become national news, not a very brief piece lost in the events section of a regional newspaper.

In January 2015 I resumed the review of this case. I candidly told my informant that there was little resemblance between what he told me and what appeared in the press, asking him to find other sources with full names who could confirm that they were eyewitnesses to the same thing he witnessed. “I suspect a fabrication,” I told him truthfully. “I have been unable to gather any information other than some comments from someone who saw the object...It’s funny, but almost all the witnesses [who?] agree on the same details, and their recall is amazingly clear even though it’s been so many years,” he replied. Clear? But where are the names? I would add. He said my e-mail had prompted him to keep looking, in the hope that he could send me some additional information. I told him clearly that the “dramatic version” he had put together lacked corroboration. His response did not contradict me: “It is true that the most reasonable thing to do is to look for information in official sources, such as in the reports filed by the Guardia Civil, but in that respect, I am somewhat at a loss. As for witnesses, I do not think there is more to discover, although it was a famous event in the area, it was not covered by the media. *I have read about many cases here in Spain and personally I would qualify it as one of the most spectacular.*” [My emphasis]. Finally, I asked him several “technical” questions about apparent and angular dimensions, distances, etc. There was no answer.

In November 2017, I rediscovered that exchange by checking my pending issues files and I wrote to him to repeat the questions that needed to be answered. “I sent you an e-mail in response, but it may not have reached you,” he replied. Despite asking him to forward that e-mail to me, he did not. “*Following your request*, I went to the scene and performed a detailed reconstruction,

including photographs. I positioned the distances and bearings of the object with visual leading lines contrasted with a nautical chart. They correspond to my version and that of all the witnesses I have spoken to.” We will come back to them later.

In another message, he stated: “There are no official records of the sighting. I have spoken to a former colleague from the Guardia Civil post at Cabo de Palos [7 km from Los Nietos] and *there is no report of this alert*.” The possibility of consulting the Guardia Civil is zero, as this military institution does not hold internal documents beyond five years. (1) He also wrote that he was in touch with three well-known Spanish ufologists. The fact is that there are no longer virgin witnesses, but some are more so than others. It is evident that my informant is well-versed on the subject of UFOs. For example, he mentioned a controversy related to the declassification of the Spanish UFO archives by the Air Force, a process in place from 1990 to 1999 in which I played a key role (2, 3, 4), about whose debates he was well informed. To show that he knew what he was talking about, he added, as if it were a plus: “In addition to what I said before, I also had the pleasure of chatting with Colonel Cámara.”⁴

In the face of an alleged collective sighting, one must look for reports that occurred on a similar date and place. But there are no records of a UFO sighting in the Mar Menor in August 1986 of a phenomenon with the characteristics indicated by the informant. Of course, I did my homework. I checked my own UFO catalogs, consulted my colleagues, researched on Internet forums: nothing turned up for that August 15, 1986. It was especially curious because a phenomenon like the one described must have had many witnesses. There is nothing recorded anywhere, except for the trifle already reported in the local newspaper. More importantly, it has been verified that there has also been no press communication from the air authorities about a weather balloon crash as an explanation for a UFO sighting in almost 20 years.

The claimant says he heard planes taking off from San Javier, 20 km away. But, regardless of the improbability of such a noise being heard, San Javier is the General Air Academy, not a typical Air Force base. The aircraft deployed there—the C-101 type—are for training new pilot officers, are not equipped with radar, and do not fly at night. No fighters take off from there on an interception mission. So that statement is false. In any case, for that purpose, the closest would be Los Llanos air base (Albacete), about 180 km away. Besides the fact that it is infrequent for two aircraft to be launched at the same time in a scramble mission, the minimum process for a Mirage F-1 to reach the Mar Menor, based on a hypothetical radar detection (from the nearest EVA-5 radar station in Alicante to the *Pegaso* center at the Torrejón AFB in Madrid), would not be less than 30 minutes. That the “fighter-bombers” appeared within minutes of seeing the object is another falsehood, as per the witness’s account. Moreover, there is no case of a “UFO chase” in 1986 among the collection of UFO files held and declassified by the Spanish Air Force, with cases up to 1995. (6, 7)

As for the national newspapers, a review of the main newspapers of the country has failed to turn up anything related, either to the striking observation narrated by the informant, or to an alleged official statement. Nor has anything even remotely similar been reported in nearby countries bordering the Mediterranean.

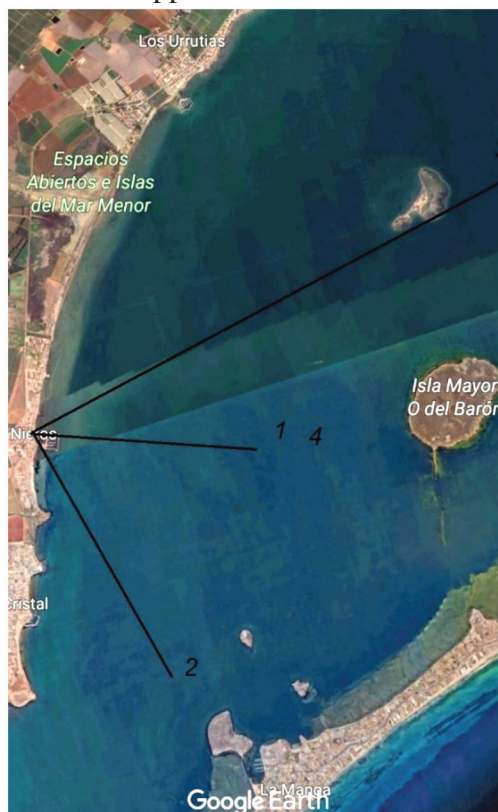
⁴ The pilot of the fighter scrambled hours after the so-called “Manises case.” (5)

In 2019 I unearthed this case again to remind the witness that he had promised me to author a comprehensive report, which would better enable its study. “It is true that I have neglected the matter a bit,” he remarked. Finally, in 2020 I decided to pursue the story to the fullest extent. For months, a series of e-mails and phone calls went back and forth to seek specifics and expand on the data necessary for a thorough analysis of the testimony. The witness, José Antonio Rodríguez Martínez (“Rubio [Blond] is a nickname because I have red hair”), lives in Cartagena and has been an active military officer since 1996, specifically a Senior Chief Petty Officer of the Navy. The observation lasted from 30 to 40 minutes, only in that it coincides with what was published by *La Verdad*. He pointed out that the object had an “ovoid” shape (previously referred to as a “spheroid”) and that it was “practically at sea level” (no longer floating in the water but hovering over the sea). Asked about the angular height above the surface, he argued that he was in an elevated position and that the perspective did not allow him to make that estimate. As to its dimensions, these were equivalent to the length of the Guardia Civil patrol boat that approached it, i.e., about 20 m. “The object seemed solid, although the light that illuminated it did not allow it to be seen, although its shape could be guessed,” he pointed out in one of our several subsequent e-mail exchanges.

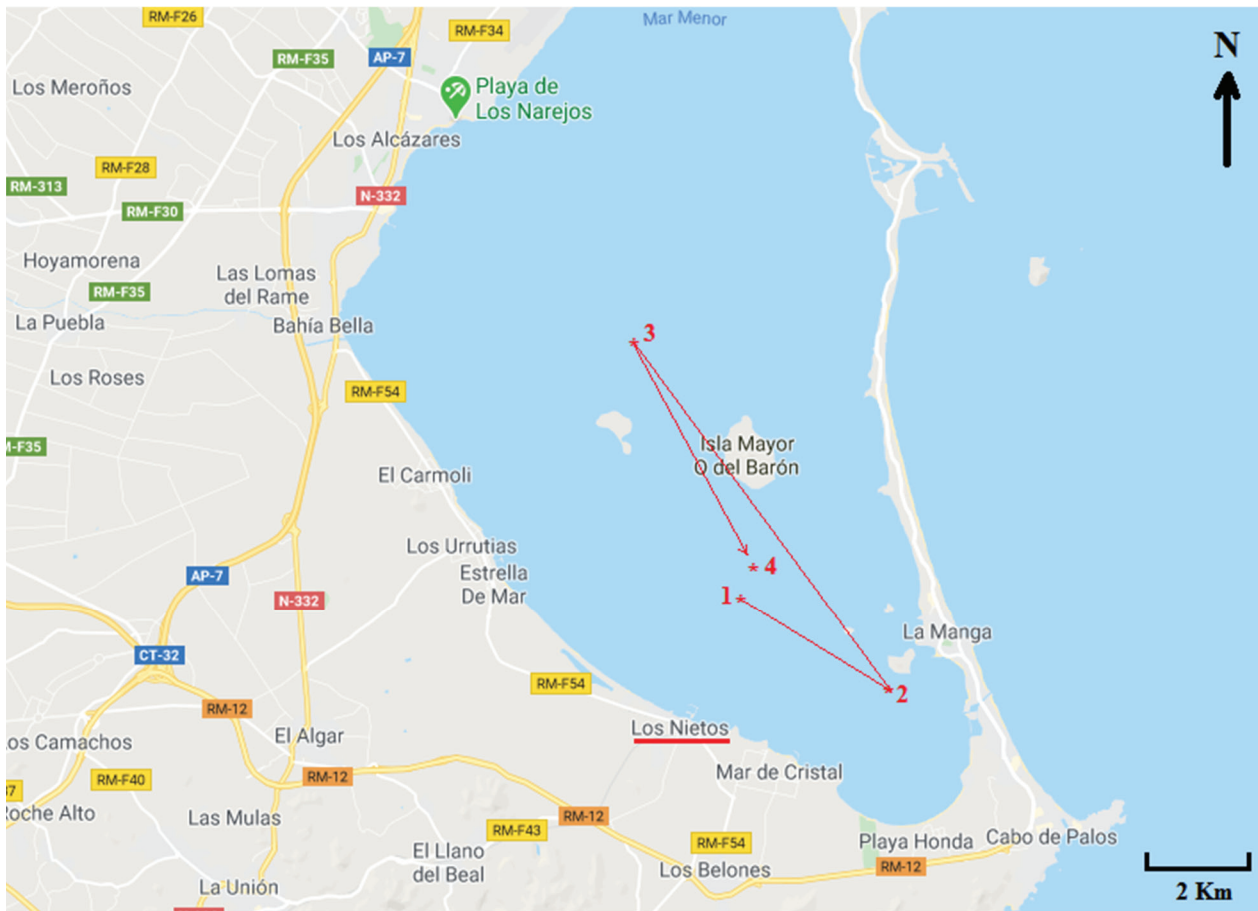
For a sailor who is supposed to be able to calculate distances, the figure of 500 m away from the Guardia Civil boat according to his 2014 message becomes a mere “100 m” in a telephone conversation on August 9, 2020. That is what we might call an excessive and sudden approach! The informant (46 years of age in 2020) was born in April 1974, so he was barely 12 years old at the time of observation. This datum is particularly relevant. Moreover, the subject is particularly well-informed on UFO matters, so his predisposition to confuse and contaminate the actual recollection and the current story by tacking on additional details is not a possibility, it is a fact.

The Geography of the Story

Witness Rodríguez Martínez sent me some recreations of the sighting, tracing lines to pinpoint the four successive positions of the supposed object. Seen from Los Nietos, the object descends over point 1, then moves towards point 2, then moves to point 3, to finally return to the initial area, point 4, and from there it rose until it disappeared.



The following map graphically shows the supposed movements of the UFO over the Mar Menor.



Inquiry

On October 9, 2020, the witness contacted me again, with a phone call and two e-mails, including a graph for the UFO movements, one that was similar to our own reconstruction above, except that he places point 3 much further away. We agreed to have an interview the next day. I had already prepared a long stack of seventeen cards full of questions for this purpose. An extensive telephone interview resulted in the witness providing the following **new** information:

Why did he pursue this matter in 2014, twenty-eight years after the fact? “Out of curiosity. It was always in my mind.” Queried about his interest in UFOs he admitted that he had read about UFOs “since I was a kid,” and was currently a follower of TV shows on UFOs and the paranormal. He contacted some ufologists for information, but no one was aware of such an incident. Did he write any report of his own observation? Not until he wrote to me in 2014, “because there was no data at hand, a vacuum of information [from other sources].” To the problem posed by his youthful age as an observer of events so far back in time, he said he remembered “perfectly” what he saw and even recalled things from when he was six years old. “According to what I have read,” he added, “witnesses remember even though 40 years have passed, I am not a special case.” He guesses that children “who are more impressionable, register things better” and finally pointed out regarding the validity of his memory: “*to me, these details have always been clear, now I have refined them*

from an objective point of view.” In 2014 he returned to the site and checked: “there is no confusion in distances or directions, it was an adult corroboration.”

He insisted that his mother and cousin saw and remembered it. Any attempt to interview them was aborted, his mother “won’t lend a hand, she doesn’t want to know anything about it” and he no longer had a relationship with his cousin, due to family problems.

As time went on, the witness became more and more precise: “the object was one nautical mile [1,852 m] from the balcony. The glow of the object in the sea below marked its position and the height above the water was perfectly visible.” The UFO was about 20 or 30 m above the surface of the sea. He said he had now remembered “one relevant detail”: “*minutes before the patrol boat approached, another vessel came alongside the object, possibly a fishing boat, as it had high-powered mobile spotlights on deck that illuminated the object.*”

As for the size of the object, his references were the two nearby vessels (located at point 2 in the previous graphs): the fishing boat (with on-deck lighting) would have been about 10 m long, the Guardia Civil patrol boat, about 15 m long. He calculated that the UFO would have had a diameter larger than the fishing boat and similar to the Guardia Civil’s boat. I asked him to compare its apparent size with that of the full moon (0.5°), to verify these data: “I couldn’t, I would be making it up,” he replied.

“There is one piece of information that was not correct in the report I sent you: the sequence was, first the fishing boat, which came within a few meters [later in the same conversation, he estimated 50 m] for about five minutes. The Guardia Civil ship did not approach but was going in that direction and stayed between 500 and 1000 m away.” Rodríguez pointed out that the object “was always static above the sea, at the same level” and that “at no time did the initial altitude over the sea change.”

I wanted to determine the full duration of the sighting. As per the witness statements (see the positions in the charts above):

Point 1 (within 1.9 km): “about 15 minutes.”

From point 1 to point 2 it moved “with instantaneous speed, like a trail of light.”

Point 2 (3.7 km to the SE): “It was a few minutes, between 5 and 10.” Here we have the two boats. “You could hear the roar of the Guardia Civil patrol,” he recalled. The fighters were taking off and could be heard (“a different noise from the normal planes on the base”).

Point 3 (at ~14 km): “very brief stay here, about 2-3 minutes.” The fighters were already flying over the area, “reconnaissance, without approaching.”

Point 4 (at 3.7 km): “just a few moments.” From there, it rose until it disappeared.

In all, the sighting would have lasted about 28 minutes. At first glance, his statement seems rational and sincere. The witness provided justification for his claim.

Fundamental to this investigation was the search for any confirmatory information published in local newspapers. It was the noted Spanish investigator Juan Carlos Victorio who found a key piece, a news item published in the Monday paper of Murcia, *La Hoja del Lunes* of August 18, 1986, entitled *The La Manga “UFO” was a colorful weather balloon. It was released from a*

recreational boat. That brief information from the EFE agency presented the following details about the case:

The unidentified flying object (UFO) that recently caused excitement on the Murcian coast was a colorfully painted weather balloon. The amusement that the UFO brought to the holidaymakers came from J.P. Padilla, who had the idea of launching a balloon from his pleasure boat, as reported yesterday by a group of friends of the space-probe thrower. The balloon was also equipped with a device to broadcast radio frequencies.

Unfortunately, neither the date nor the exact time is given, but it surely refers to the event of the early morning of August 15 reported by *La Verdad* on August 16. As our witness spoke of “midnight,” undoubtedly both news items refer to the same incident.



La Hoja del Lunes (Murcia), August 18, 1986.

Analysis

No event is considered to have occurred or to be real without evidence. A story without confirmation is invalid for all purposes, especially when dealing with a surprising or outlandish incident that purports to be anomalous. We cannot simply believe the stories that anyone tells us, especially those of an extraordinary nature that would force us to reevaluate established knowledge. Let us never forget Carl Sagan's aphorism: “extraordinary claims require extraordinary evidence.”

An essential step was to consult with the Air Force as to whether any fighter planes had left that night from San Javier or from any other base on a mission in that area. Their response was definitive:

Finally, we can confirm that, after consulting the appropriate sources and on the dates that you mentioned, there was NO scramble procedure. For any other query we remain, as always, at your disposal. (8)

The case under study poses (in no particular order of priority or relevance) serious problems:

- Total absence of eyewitnesses to confirm the claim (saying that they exist is not equivalent to proving that they exist, not without names); *de facto*, there is only one sole witness.
- False information about a supposed official press release.
- There is no trace of information on “his” case, neither published nor in the archives of local or national UFO researchers.⁵
- What the local media published in the following hours or days points to the release that night of an illuminated balloon by an individual, as the object that caused the confusion.
- A case of this importance is unknown among the UFO files of the Spanish Air Force.
- False information about departures of interceptor fighters from the San Javier base, or any other scramble procedure in Spain in that time frame and location.
- Impossibility of hearing the takeoff of fighters 18 km away.
- Unverified information on direct intervention by the Guardia Civil.
- Doubtful assertion that he coincided with other witnesses of the same event.
- The 28-year delay from observation to first communication.
- The dynamics of the supposed object (the trajectories made) are erratic and meaningless.
- It is very doubtful that, at just 12 years old, he had the ability to determine such a level of detail for distances and movements of an unknown luminous object.
- The date is remarkably close to the Perseid radiant (July 23 to August 22, with a maximum on August 12-13) (9), and the observed initial fall of a “bright object from the sky leaving a trail” could be perfectly attributed to a shooting star, which was subsequently allied with the appearance of the colorful balloon.
- Last but not least, the claimant’s intense belief in the UFO subject from his childhood.

Faced with an account of the characteristics presented, an unverifiable testimony without any external corroboration, several hypotheses can be expressed, with different degrees of conscious involvement by the narrator. The range of complex misinterpretations, immaterial experiences, even deliberate deception are positive contributors from the perspective of the definitive psychosociological hypothesis. (10) I prefer to think that, over the years, the witness has unconsciously transferred extraneous details acquired in his admittedly profuse consumption of books, magazines and documentaries on UFO matters to the memory of his early observation. Giving him the benefit of the doubt, the witness, over time, has created a *false memory*. (11-14)

Ufology is a mine of “clinical” examples of this psychological phenomenon. (15) Recent research has brought to light that the dilatory effect of relaying the experience and the “belief” effect on the part of the subject maximizes the production of false memories. (16) Both are major components in this case study and this author is convinced that their prevalence in UFO cases casuistry is extremely high.

This case represents the central dilemma in the study of alleged extraordinary events. The initial sighting, by a child, has transmuted a light or an illuminated object on the sea into a movie about a near splashdown, with jets chasing the UFO, a Guardia Civil boat approaching and a fishing boat

⁵ The only news of an object suspended over the Mar Menor in August 1986 is the drawing of a “ship” supposedly seen by a certain Joaquín Fernández, protagonist of no fewer than 13 UFO sightings and who claims to be “controlled by those beings.” But the drawing actually refers to a case dated August 1963. J.J. Benítez, *Sólo para tus ojos*, Planeta (Barcelona), pp. 117-118. Be that as it may, the two accounts differ substantially.

focusing its spotlights on an unidentified flying object that continuously changes direction and flies at an incredible rate of speed. In other words, a quirk of imagination that he has come to believe and which he wished to share with “experts” to seek endorsement. A more radical alternative would be that it was a pure invention, something completely unreal, unfounded, a product of his own mind, which he subsequently linked to a news report in support of his statements. The dichotomy between imagination and reality underlies the analysis of the most critical sightings. (17) It is known that visual hallucinations do not require a prior psychopathology (18) and that the genesis of a hallucinatory experience in non-clinical subjects is related to a circumstantial event such as grief or an isolated phenomenon. (19) Yet, in this case, it does not seem to be a hallucination but a false memory, another of the many mental phenomena that are associated with the fabrication of stories. As a matter of fact, episodes of false memory have been discovered to be associated with other weird “encounters.” Subjects reporting memories of alien abductions were more prone than control participants to exhibit false recall. (20) In any case, in ufology the dividing line between mystification and false memory is extremely tenuous. (21)

Moreover, there are people who do tell ufologists stories they have simply imagined. (22) The range of explanations for “close encounters” is extensive: misinterpretations, teasing, pranks gone haywire, pathological lies, specific hallucinations, apocryphal memories, sleep paralysis, hypnopompic and hypnagogic visions, etc. There are various motivations and evaluations. The participation of professionals from the world of behavioral sciences in the study of the most spectacular UFO casuistry is absolutely necessary. I have personally compiled more than 1,200 files of such reports from the Iberian Peninsula: there is material for many Ph.D. theses.

The approach followed in the analysis of this information is not new, nor is it arbitrary. It is about being faithful to what the philosopher Bunge (23) calls *methodological rationality*, which consists of questioning (doubting and criticizing) and justifying (demanding demonstration or data, favorable or unfavorable) in a systematic way. On the UFO issue, this position is indeclinable.

As an epilogue, let me remark that the penultimate time that the observer contacted me was on January 12, 2021, complaining: “last night they reported about UFOs in the Mar Menor on Cuarto Milenio⁶ but they did not refer to my sighting.” I replied frankly that his case, for all intents and purposes, does not exist, as there is no corroboration. To conclude, before publishing the Spanish version of this report I have sent it to him, noting that “it was not an alien spacecraft, but it was not an invention either, it was what psychologists call a false memory... In my opinion, you should not continue to dwell on this matter. It is advisable to forget all about it and continue with a normal family and working life.” I want to think that his immediate response, although brief, augurs a return to normality: “Thanks for everything, best wishes.”

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⁶ Since 2005, the Spanish “Cuatro” TV channel has broadcast a television program devoted to UFOs, the paranormal, and mysteries, hosted by Iker Jiménez.

Pablo González, for checking CUCO's database (catalog of UFO Sightings in the Iberian Peninsula). To Captain M. A. Cuenca López, Air Force Public Information Officer, for information on the lack of scrambles that day. To Chris Aubeck, for editing.

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The Phoenix Lights: The Fallibility of Human Perception and Memory

Tim Callahan

Abstract: The Phoenix Lights, which appeared in the night sky in Phoenix, Arizona on March 13, 1997 were perceived by several onlookers as the leading edge of a large V-shaped flying craft, which flew directly over their heads. The witnesses described the unlit portion of this UFO as obscuring the stars above it as it passed, slowly and silently. These witnesses were, for the most part, reputable and they were not suffering from any delusions; nor were they suffering from sleep paralysis or any other temporary psychological disruption of either their cognitive or perceptual abilities. However, videos taken of the lights show them appearing one at a time, hovering close to the western horizon in a ragged line, then winking out one by one. Research carried out by psychologist Elizabeth Loftus, as well as by Christopher Chabris and Daniel Simmons, among others, demonstrates the subjectivity of both perception and memory. Shared experiences of an unusual event are often transformed into a coherent dramatic narrative. Despite admission on the part of the United States Air Force that the lights were military flares dropped by parachute and the disconfirming videos taken in 1997, belief that the Phoenix Lights were the leading edge of a huge UFO remains strong 25 years after the incident.

Keywords: Christopher Chabris, Davis-Monthan Air Force Base, Hidden gorilla, Hypnagogic state, Tim Ley, Elizabeth Loftus, Military flares, Tony Ortega, Phoenix, Phoenix Lights, Prescott Valley, Scottsdale, Inattention blindness, Daniel Simmons, Sleep paralysis, Mitch Stanley, Steve Titus, UFO

On the evening of March 13, 1997 numerous witnesses in southern Nevada and in or near Phoenix, Arizona reported seeing a huge, V-shaped craft soaring slowly and silently over them. Five lights, one at the point of the V and two others on the leading edge of each wing, marked the craft. This UFO sighting came to be known as the Phoenix Lights. The initial sighting of the Phoenix Lights was in Henderson, Nevada, which is a bit southeast of Las Vegas. This was at 7:55 Mountain Standard Time, March 13, 1997. The witness in Henderson reported he saw a V-shaped object, about the size of a 747 passenger jet. It had six lights on its leading edge and sounded like rushing wind. It was traveling northwest to southeast. The next sighting was by an unidentified former police officer in Paulden, Arizona at about 8:15. He reported seeing a cluster of reddish or orange lights, four lights together and a fifth trailing light. Through binoculars, he could see each individual light was made up of two light point sources. The lights eventually disappeared over the southern horizon. At 8:17 callers in Prescott Valley began reporting an object they said was solid, because it blocked out stars as it passed. One of these witnesses was John Kaiser, who was outside with his wife and sons. He said the lights formed a triangular pattern. The leading light was white, but the others were red. He said they passed directly overhead, banked to the right, then disappeared to the southeast. While observers in Prescott Valley couldn't determine their altitude, it was low. The supposed craft made no sound. Another observer in the Prescott area also saw a V-shaped line of lights, the first three of which were clustered at the point of V, while two lights were farther back¹.

¹ Margaritoff, "The Full Story of the Phoenix Lights," online link.

One of those who saw the lights above Prescott Valley was Tim Ley. He, along with his wife Bobbi, his son Hal and his grandson, Damien Turnidge, initially saw them as five lights in an arc-shape. They soon realized the lights were moving toward them. As they did so, the lights, over the next ten minutes, resolved into a V shape similar to a carpenter's square, or like two sides of an equilateral triangle. They, like other witnesses, reported a huge object, discernable not only by five lights on its leading edge, but as well because it blotted out stars in the night sky as it passed directly over the observers. Soon the object appeared to be coming right down the street where they lived, about 100 to 150 feet (30-46 meters) above them, traveling so slowly it appeared to hover and was silent².

Quite a different story from most was told by amateur astronomer Mitch Stanley, living in Scottsdale, a suburb of Phoenix. After looking at the lights through his telescope, he told his mother, who was present at the time, that the lights were airplanes. According to reporter Tony Ortega, Stanley's report fell on deaf ears. Those interested in hyping the story weren't interested in his rather mundane explanation³:

After his sighting, Stanley tried to contact a Phoenix city councilwoman who was making noise about the event, as well as a couple of UFO flim-flam men working the local scene, but he was rebuffed.

Curiously, despite the fact that many people called various authorities about the strange apparition and that there are at least three Air Force bases in the general area of Phoenix, no fighter jets were scrambled to intercept this UFO. These bases are the Davis-Monthan Air Force Base, 4.3 miles (6.9 km) southeast of Tucson, thus about 100 miles (161 km) from Phoenix; Luke Air Force Base, about 15 miles (24 km) west of Phoenix; and the Air National Guard Papago Park Military Reservation on the outskirts of Phoenix itself. So, how was it that the United States Air Force failed to respond to all of these reports, and how did an amateur astronomer report a quite different event?

Fortunately, in addition to the testimony of many witnesses, we have videos taken of the 1997 incident. They show a series of lights appearing in the sky, one by one, then winking out one at a time. In one of the videos, the man shooting it exclaims, "Another one just showed up!" In that video the first three lights form a line, then a fourth appears in such a position as to make an angle. In another video, this one without sound, one light appears, then another, then more, up to five, then six lights. These are first in a shallow "v" shape, then a more or less straight line (see Figure 1). Then the lights wink out, one by one. None of the videos shows a solid V-shaped object blotting out the stars as it moves overhead. In fact, in most of them the lights simply hover, rather than moving in any discernable direction⁴.

² Ley, Interview, online link.

³ Ortega, "The Phoenix Lights Explained (Again)," online link.

⁴ Not all the original 1997 videos can be currently consulted, but these have been replaced by other versions currently available online.



Figure 1. Digitally re-created photo of the Phoenix Lights. Credit: Pat Linse (*Skeptic Magazine*).

These videos support the explanation from the Department of Defense that the lights were military flares dropped during a training mission⁵:

The Air Force initially claimed that no warplanes were in the area. Two months later, officials from Davis-Monthan Air Force Base near Tucson cited a logbook error and confirmed that Maryland Air National Guard A-10 pilots completing a training exercise ejected leftover illumination flares near Phoenix before returning to base. "One of our guys had about 10 or so left," Lt. Col. Ed Jones told the Arizona Republic, "so he started to puke them out, one after another."

These military flares are dropped by parachute and thus hover over battlefields they illuminate for a considerable period of time. Hence, they appeared suddenly in the sky west of Phoenix and seemed to wink out as they slowly descended behind the Estrella mountain range southwest of the city.

Given the video evidence of the lights appearing one at a time and hovering in an irregular line low in the western sky, how did so many witnesses perceive them as a V-shaped craft flying slowly and silently almost directly overhead? It would appear that much of what witnesses saw resulted from the perceptual centers of their brains automatically filling in the spaces between the lights to create a whole object.

Nevertheless, it seems at first incomprehensible that eyewitnesses could observe an irregular line of lights, appearing one at a time and disappearing one at a time, low in the western sky and yet perceive them as a V-shaped craft with the lights on the leading edge of its wings, a craft whose silhouette obscured the stars above it as it passed directly overhead of the observers. Can perception and memory be that faulty? Most of us, it would seem, labor under a misapprehension that perceptions and memories work much like a tape recorder, giving us a more or less objective recording of events we either witness or in which we participate. In a 2013 TED talk, Elizabeth Loftus, cognitive psychologist and expert on human memory, described in detail just how fallible

⁵ Patton et al, "Military Flares are Behind Some UFO Sightings," online link.

memory and perception actually are⁶. Dr. Loftus began her talk with the tragic story of Steve Titus. He was out for a romantic evening with his fiancée when he was pulled over by the police. It turned out that his car resembled that of a car driven by a man who had raped a female hitchhiker. Also, Titus somewhat resembled the man. When the rape victim looked through a photographic line-up she said of Titus' picture, "That one's the closest". Titus was put on trial and the victim testified against him, saying, "I'm absolutely positive that's the man." Titus was convicted but fought back, contacting an investigative reporter, who found the real rapist. That man not only confessed to the rape but was found to have committed several others. Titus was exonerated and freed. However, he had lost his job, his life's savings and his relationship with his fiancée. Embittered by his misfortunes, he sued the police. However, just days before his suit was to go to trial, he suffered a stress-related heart attack and died at the age of 35.

Loftus went on to tell that 300 innocent people, convicted based on faulty testimony have been freed based on DNA evidence. Many of them had been imprisoned for between 10 and 30 years. Loftus further pointed out that memories can be subjectively altered by how witnesses are questioned. In one experiment two groups of people were shown the same staged automobile collision. One group was asked, "How fast were the cars going when they hit each other?" The other group was asked, "How fast were the cars going when they smashed into each other?" The second group, given the more visceral description of "smashed into," estimated the cars' speeds as significantly higher than the first group and also reported seeing broken glass lying on the street after the collision, when there was none.

In another experiment on visual perception, researchers Christopher Chabris and Daniel Simmons created a video in which two teams, one wearing white shirts, the other wearing black shirts, pass basketballs to other members of their team. Those viewing the video are told to count the number of times members of the team in white shirts passed the ball to each other. Unbeknownst to them the video has a surprise. While they are busy counting the number of passes made by the team in the white shirts, a person in a gorilla suit walks into the scene turns to face the camera thumps her chest, then walks off the stage. Most viewers do not see the person in the gorilla suit. Then the audience is shown the video a second time. This time a title flashes on the screen: "Gorilla Incident Second Look." Now, all those viewing the video see the gorilla walk through the scene⁷. Why do those who see the person in the gorilla suit in the second showing of the video miss it the first time? What is at work here is called "inattention blindness." Since the viewers have been directed to focus on the team wearing the white shirts, they unconsciously edit out those in black – including the person dressed in the black gorilla suit. The title "Gorilla Incident Second Look" directs them to look for the gorilla, just as the initial instruction to focus on the team in the white shirts directed their attention away from it.

So, given certain cues, witnesses will see what is not there – broken glass in the street, when the staged traffic accident is described as cars "smashing into" each other—and will not see what is there—a person in a gorilla suit walking through a scene. Our sensations are organized into perceptions by the perceptual centers of the brain, visual perceptions being organized by the occipital lobe. Consider that we actually get two sets of visual sensation, one from each eye. Each of these images should also include a hole created by the blind spots where the optic nerve of each

⁶ Loftus, "How reliable is your memory?" online link.

⁷ See "Invisible gorilla" documentaries online.

eye connects with the retina. The blind spot is effectively compensated for by the fact that our eyes are not still but are actually looking up and down and left and right. In addition, our eyes are constantly focusing and refocusing on the scene we are viewing, now focusing on the foreground, now on areas farther away. We do not, however, see two images with blind spots, and are not usually aware that our eyes are turning in various directions; nor do we see the images changing with the shifting of visual focus. The reason we see a single three dimensional image rather than two, a single image without blind spots, an image with a depth of field most cameras cannot match, is that this data is organized by the occipital lobe of our brains.

The experiment cited by Loftus and the video staged by Chabris and Simmons also demonstrate that these perceptions can be distorted by directives, misinformation, emotionality and shared experiences. When people share their often flawed perceptions of an unusual event, the sharing results in their perceptions being organized into a dramatic narrative. Those who witnessed the Phoenix Lights saw something somewhat incomprehensible in the sky over, or at least near, their city. Tim Ley and his family shared their perceptions of what they individually saw in the night sky. It is noteworthy that Mr. Ley was interviewed in broad daylight on June 13, 1997 – three months after the Phoenix Lights appeared in the night sky. Hence, what he witnessed, shared between him and members of his family, was unconsciously refined over a three-month period into a structured narrative. More than anything, the sighting of the Phoenix Lights demonstrates the fallibility of both eyewitness testimony and human memory. It as well illustrates the storytelling, pattern-seeking nature of both our centers of cognition, and our perceptions. It should be stressed that the lights were witnessed over wide areas by many people, all of whom were reputable witnesses. Most of these witnesses, it seems, were not subject to delusional thinking, nor were they imposing a preconceived agenda on what they saw. These witnesses were not, in the main, UFO enthusiasts; nor were they suffering the effects of sleep paralysis and the hypnagogic state, as is often the case with those who believe they've been abducted by aliens. Also, they really did see something unusual in the skies of the southern tip of Nevada and southwestern Arizona, particularly Phoenix. The persistence of this shared narrative is also worth noting. Did the videos showing an irregular line of lights coming on and winking out one at a time, coupled with the admission by the Air Force that these were military flares dropped by parachute dispel the mythos of a large, V-shaped craft flying slowly and silently over the city of Phoenix, blotting out some of the stars during its strange passage? They did not. In a local newscast featured on Fox 10 Phoenix on the 24th anniversary of the 1997 incident, the broadcaster says of the Phoenix Lights, “, , , and to this day, there is no way to be sure what they were, where they came from or where they went.”⁸ A good story, particularly an exotic one involving a seeming cosmic mystery, has far more staying power and generates a greater depth of belief than does mere mundane reality.

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Missile Flights and Fantasies

James T. Carlson

Abstract: Discusses the numerous disconnects between very consistent witness confirmations alleged by a single individual and the very inconsistent claims presented by that individual over an extended period of time. The case study involves an incident in which UFOs reportedly interfered with the status of nuclear missiles within multiple silos and squadrons at Malmstrom AFB in the State of Montana, United States of America. These differences later proved to be the key factor proving the falsity of the claims, because they ultimately provided sufficient cause to interview all of the witnesses separately — a resolution that was impossible to assert when the case was first described due to the anonymity of the witnesses discussed. Anonymity should always provoke doubt.

Keywords: Nuclear, Missiles, Paranoia, Interference, Deterrent, Military, Silos, Witnesses, Documented, Declassified, Unclassified, Secret, Government, Confirmed, Officers, Consistency, Inconsistency, Forces, Targeted, Anti-nuclear

Preface

Never underestimate the need for the validation of one's world view, particularly when that validation can only succeed with the rejection of known facts. Sadly, when a case tends to support the world view of adherents, it is only rarely examined with appropriate focus. In such cases, that need for validation is perfectly capable of fueling the mass stupidity that all too often lies at the heart of one's contempt for reasonable alternatives. When that happens, the need for validation can be weaponized just as effectively as any rifle or hand grenade. More to the point, when we ignore such aggression, we do so at our peril. Welcome to America: we listen best to those who won't hear the truth, and give voice to those who won't speak it.

In 1996, Robert Salas and members of the Computer UFO Network (CUFON) , decided to lobby the federal government to reopen and expand Project Blue Book, the USAF program intended to openly study and address the issue of UFO incursions within the borders defining American air space. This goal has been consistent amongst UFO proponents for the past 50-years since Blue Book was terminated in December 1969. Given the failure of UFO proponents to expand UFO studies beyond the mere reporting of testimony using their own limited resources, they have been persuaded that only by using the nation's resources could any measure of success be achieved. And success for these individuals requires the U.S. government to finally admit that UFOs represent America's contact with one or more alien species visiting Earth for at least the past 65-years and possibly for all of our recorded history. Anything less, it is believed, would be just another example of more lies and secrecy intended to hide this truth.

Robert Salas and CUFON decided that the best way to achieve this goal was to create a UFO incident so shocking and of such obvious importance that Congress would be forced to open a proper, well-funded investigation of UFO phenomena — one that would complete what the USAF had started and then prematurely ended when Project Blue Book was terminated on December 17, 1969. While UFO proponents were often critical of Blue Book, they were nonetheless dismayed when the investigations were terminated completely for what they have

always believed to be false causes instigated to complete a cover-up of the “truth” behind UFO claims.¹

The story they decide to make public is a frightening one. On March 16, 1967, a UFO approached Echo Flight, one of the nuclear missile silo regions in use at Malmstrom AFB in Montana, and using some unknown means, took all ten missiles offline from the system, effectively removing them for a short period from strategic use by U.S. military forces. Supposedly, this incident was investigated, and no cause for the shutdown of missiles could be discovered.² Also, allegedly, the mystery remained classified by the USAF until Robert Salas and CUFON came along and ensured that the Echo Flight Incident was declassified in 1996, after nearly 30-years. Then they appropriately made public the “fact” of the UFO interference with the missiles in 1996-97. Later, they insisted that the same thing happened at November Flight on the same date. In 2000, they stated that because of poor memory, this was wrong. The second event actually took place at Oscar Flight. Seven years after this, they changed the date of the second event and insisted that it took place a week later on March 24, 1967. The only missile failures that were ever documented, however, were those that occurred at Echo Flight on March 16, 1967, and that also represented the only full-flight failure of missiles that ever took place at any time in the United States. They took a real event and charged it with UFO paranoia to try and frighten people into demanding further UFO study using national resources to pay for it.³

Problems with the Case

Of course, none of the claims they made have ever been proven, and subsequent interviews with the witnesses who allegedly confirmed every aspect of their claims, have proven as well that Robert Salas and CUFON simply lied about the whole matter. There was no UFO reported, nor was there a UFO ever investigated in relation to the events of March 16, 1967. The Echo Flight missiles did fail, but the incident was investigated thoroughly for over a year, and the problem was determined to be an electrical one that was subsequently resolved, and never recurred again after maintenance changes were made to the entire system.⁴ There was no failure of missiles at all at November Flight or Oscar Flight — that entire “incident” was a complete invention.⁵ Not one missile officer, excepting Robert Salas, has ever discussed more than three or four missiles ever failing at Oscar Flight in 1967, and those three or four missile failures were reported second-hand by Robert Salas, who eventually changed them to 5-6 missiles, and a year later 7-8 missiles. He later made the claim himself that the entire flight of ten missiles had actually failed. The individual Robert Salas insists has made such claims was his own commander: Colonel (Retired) Frederick Meiwald, Commander Oscar Flight. Meiwald, however, when contacted by researchers, refused to confirm having done so, stating rather insistently that he could not remember any such incidents occurring at all, let alone one confirming Robert Salas’ claim that such an incident had taken place on March 24, 1967.⁶

¹ Peebles, Curtis, *Watch the Skies: A Chronicle of the Flying Saucer Myth*, pp 228-230. Berkley Publishing Group, New York, New York, copyright 1992, Smithsonian Institute.

² <http://www.ufoevidence.org/cases/case1017.htm> ; <http://www.nicap.org/reports/malmstrom67-2.htm>

³ <http://www.ufoevidence.org/cases/case1017.htm> ; <http://www.nicap.org/reports/malmstrom67-2.htm>

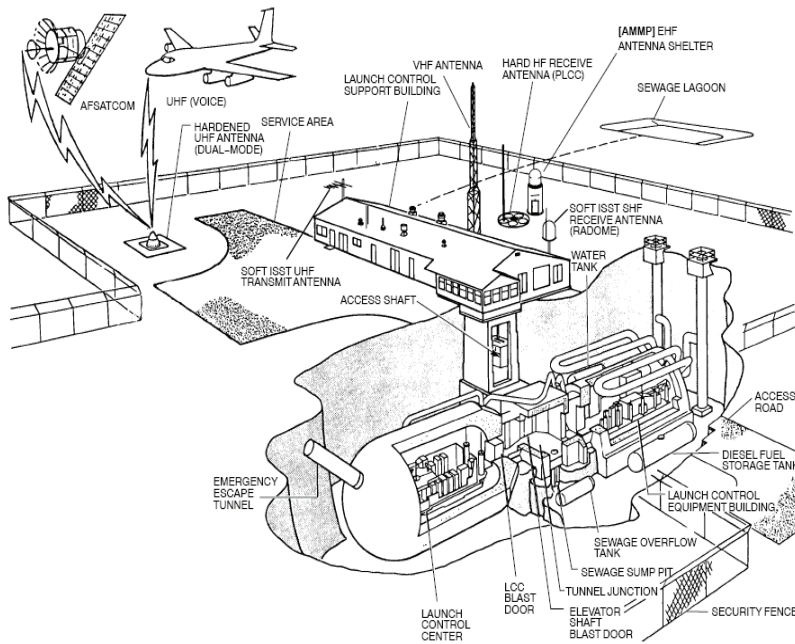
⁴ Nalty, Bernard C., *USAF Ballistic Missile Programs 1967-1968*, Office of Air Force History, Washington, D.C., September 1969.

⁵ 341st Strategic Missile Wing and 341st Combat Support Group HQ SAC DXIH 67-1865, Malmstrom AFB, Great Falls, Montana (Command History, Vol. 1), p.32-34, & 38.

⁶ Klotz, James and Salas, Robert, *Faded Giant*,

Motivating Factors

Somewhere along the way, Robert Salas and the members of CUFON must have convinced themselves that the enormity of the task before them might require use of the same dishonest strategies to reveal the whole UFO “truth” that the “alphabet soup” agencies within the government — FBI, CIA, DOD, NSA, USAF, ONI, etc. — have allegedly used to maintain what these UFO proponents consider to be outrageous secrecy of the most important truth facing mankind. Lying to the public would, after all, be a small matter compared to the possible payoff at the end of the day. Both Salas and CUFON have been very open regarding what that “payoff” should ultimately consist of: (1) reopen Project Blue Book or its equivalent to reevaluate the question of UFOs in American airspace and provide it with sufficient funding to properly address such an important and wide-ranging issue; (2) make public the “truth” of past UFO claims, because obviously the government has made contact with intelligent species from other solar systems, galaxies, dimensions or temporal locations and are determined to keep those revolutionary, scientifically valuable contacts secret; and (3) provide an example to military “whistleblowers” who wish to make public their own experiences as witnesses to military interactions with UFO phenomena.



The contour illustration to the left, provided by the USAF Public Affairs Officer at Malmstrom AFB, depicts the standard LCC building design, including the underground console area where the 2-man launch officer teams were expected to launch the nuclear missiles under their care upon receiving legal orders to do so. The building topside is the Command Post manned by security officers. For the most part the security teams were independent of the launch personnel, so minor matters under the Command Post's purview, such as the 2-man alarm patrols — were normally carried out by security patrols without having to check in with the launch officers stationed underground. Proximity alarms at the LFs were very common.

These three aspects of the goals intended have all too often been addressed by the actions already adopted by Robert Salas and the members of CUFON. Aspect (1) is a political act, and as such it requires a political solution. In order to reopen Project Blue Book or replace it with a more robust, well-funded modern study, it is necessary to prove that the conclusions reached as a result of the original study are false, whether by design or through honest appraisal. One of the major conclusions reached by the original Project Blue Book was that UFOs do not represent a valid national security threat, and that any study conducted by the United States Department of Defense is therefore unnecessary. This, of course, holds true as well for any sub-group under the

Department of Defense, such as the U.S. Air Force. Why use Pentagon funding to address an issue that has no bearing whatsoever on the functions of the Department of Defense, particularly a black hole budget with impossible to estimate conditions of closure?⁷

If Robert Salas and CUFON could show that an entire flight of 10 Minuteman missiles was shut down unexpectedly at Malmstrom AFB on March 16, 1967 — a well-reported and undeniable incident that occurred before Project Blue Book was abandoned by the USAF as both fruitless and pointless — had actually been caused as a result of a UFO incursion, it would prove as well that an undeniable threat to national security had indeed been caused by a UFO in American airspace. Given such a threat, it would necessitate at the very least further investigation using funds allotted by Congress to the U.S. Department of Defense. Such a demand could easily be addressed by Congress, particularly given the feckless paranoia that body has been victimized by in the past. By dishonestly associating a UFO presence to the failure of missiles at Malmstrom AFB's Echo Flight on March 16, 1967, Robert Salas and CUFON could easily satisfy the requirements referenced in aspect (1) above: reopen Project Blue Book and provide it with sufficient funding to address the issue of UFO incursions as a national security threat. Unfortunately, Echo Flight represents the only verifiable nuclear missile failures that have been associated with a UFO, honestly or not. If Salas and CUFON fail to make their case, then they will have failed to prove any UFO threat in relation to America's nuclear deterrent forces. Echo Flight is the only case addressing the failure of a full flight of nuclear missiles that the Department of Defense has ever had to contend with.

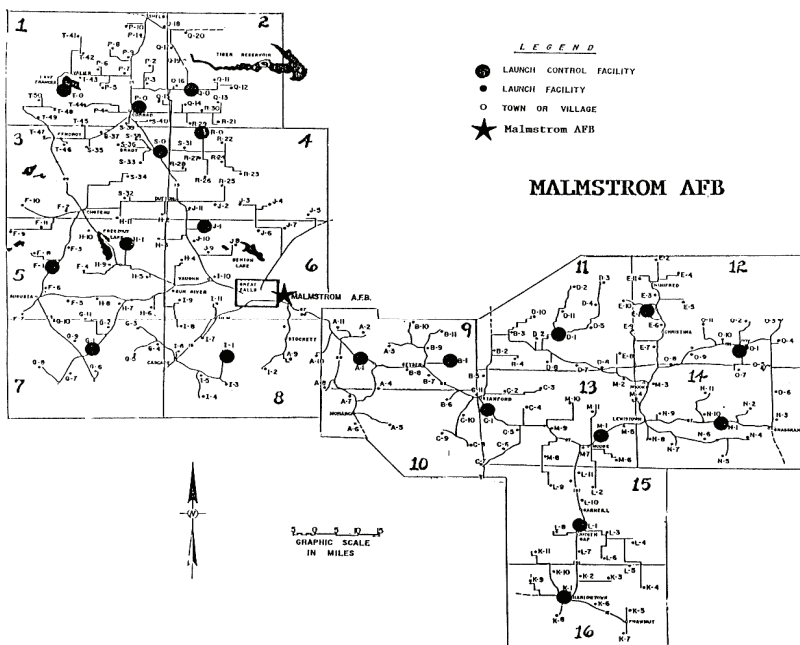
The goals inherent to aspect (2) were also easily assured by Salas' and CUFON's claims: making public the "truth" of past UFO claims as phenomena based outside of the experiences and collected knowledge of the world's scientific communities. Any technology capable of shutting down an entire flight of nuclear missiles so important to the national defense matrix of the United States by merely coming within regional approach to the operating system would seem like "magic," not technology, especially if any subsequent investigation was unable to determine a cause for the missile failures, which is precisely what Salas and CUFON were claiming. Such claims, of course, were ultimately proven false in the course of a very thorough investigation that was fully documented by the USAF — documentation that was inexplicably ignored by CUFON and Robert Salas.

Robert Salas has discussed on numerous occasions and in emails the importance of aspect (3) of his goals: providing an example to military "whistleblowers" who wish to make public their own experiences as witnesses to military interactions with UFO phenomena. He has stated openly that he wanted to show others that the Department of Defense would never go so far as to prosecute military personnel for openly discussing such matters, even if they were highly classified. Upon joining the Disclosure Project in 2000, he was able to declare this aspect of his contributions with much more spirit, affirming that he was himself the perfect example of the federal government's absence of will to prosecute those who disclosed classified materials in their drive to make public UFO phenomena in a military context. What Salas fails to discuss, however, is the fact that it is not illegal to "invent" information and pretend it is fact. "Invented" information has never been classified, so merely calling it an actual incident may be immoral, but it is certainly not prosecutable under the law — whether that law is civil or military. In regard to the

⁷ See Footnote #1.

classification of materials and incidents, the Department of Defense is not in the habit of restricting the discussion of events that never occurred. In fact, the USAF documents that Robert Salas has used to support his claims are notable for having assessed the only mention of UFOs in their entirety as being UNCLASSIFIED from the very beginning, making disclosure of UFO interference at Echo Flight a non-starter. Nobody in the Department of Defense really cared about rumors of UFOs. His use as an example of a military “whistleblower” is decidedly limited by the fact that he has yet to “blow the whistle” on any event that actually took place. Even his claims that he was integral to the process of declassifying the Echo Flight Incident is not entirely true. Markings on the documents themselves make it clear that they were automatically declassified in 1979, not 15-years later when Salas and CUFON merely requested the materials from the Department of Defense. Salas and CUFON simply replaced the cover sheet to the documents they received with a different cover sheet, one with less discernible classification markings. This bit of pointless deception was easily noticed, however, because the document dates were equally discernible on both cover sheets, proving they aren’t the brightest group of conspirators to try and manufacture a UFO incident.

The above discussion represents the primary goals that Robert Salas and CUFON wanted to achieve as a result of their invention of a UFO incident. They certainly had no moral issues with making false claims to successfully achieve those goals. Any examination of the claims being asserted leaves no other conclusion possible. In this case, however, the deceit can be proven by the simple examination of claims being addressed over a long period of time. Valid claims normally remain consistent. When there is no consistency, the odds in favor of deceit increase significantly.



This map of Malmstrom AFB to the left, also provided by the USAF Public Affairs Officer at Malmstrom AFB, shows all of the missile sites discussed in this narrative: Echo Flight is located between quadrants 11 and 12 (it is primarily in 12), November Flight is in quadrant 14, and Oscar Flight is between quadrants 12 and 14 (mostly in 12); the main administrative area of Malmstrom AFB is in quadrant 6; the blackened circles represent the launch control facilities (LCF), also called the launch control centers (LCC); the 564th Squadron LCCs are located to the extreme northwest of the main administrative area of Malmstrom AFB. Please note that each silo is separated from every other silo by about 5 miles [8 km], so the area overall is significant.

Machinations Behind Deceit

When Robert Salas first related his “tale” about a UFO, he stated that he was the deputy commander at Echo Flight when the event occurred. It gave his claims about a UFO shutting down the Echo Flight missiles a solidity that would not have existed had he been honest about his actual duties: that he was a missile officer at Oscar Flight under the command of a different squadron and had nothing at all to do with the events at Echo Flight on March 16, 1967. He later insisted that he was actually the deputy commander at November Flight, the only other flight of missiles mentioned in the four pages of USAF documentation he used to support his claims (there are over 80 pages of USAF documentation relevant to the Echo Flight Incident that were available, but Salas and CUFON pointedly ignored all the documents that proved their claims were false). He insisted at this point that the missiles were also shut down at November Flight, even though there is no evidence whatsoever that any missiles were also taken offline at November Flight (or anywhere else) on March 16, 1967. There is plenty of documentation about the missile failures and the subsequent investigation at Echo Flight, but not a single word to support claims of missiles failing at November Flight. The only documentation about a UFO is a single mention in the command history of UFO “rumors” that developed in the weeks following the incidents that were proven to be false. And yet, those were the claims Salas was making, and he insisted he had the support of witnesses.

The Confirmation of Witnesses

His three primary witnesses were not named by Salas for the first few years he was making such claims. Even in his private email messages, he merely referred to them as the “commander” and the “deputy commander” of Echo Flight. Eventually, in the year 2000, it was made clear that these two individuals were Captain (Retired) Eric D. Carlson, Commander Echo Flight, and Colonel (Retired) Walt Figel, Jr., Deputy Commander Echo Flight. From the very beginning, Robert Salas insisted that both officers had “confirmed” all of his claims (not counting the three years from 1993-1996 that he was claiming to be the deputy commander of Echo Flight, which is the story CUFON told Raymond Fowler in a personal letter dated May 27, 1996 that Raymond Fowler very kindly shared with the author). Salas also insisted that his own commander, Colonel (Retired) Frederick Meiwald, Commander Oscar Flight, had also confirmed all of his claims.

Unfortunately, it naturally appears suspicious when one is forced to change the established details supporting a claim, particularly an already astounding claim — and there are numerous details over the course of many years that Robert Salas was forced to change. Even worse, his claims are all very well documented and dated, and he habitually changed the details of his story every time he retold his story — and this was all done in writing! After 25-years of such nonsense, a rude little puddle of lies is all he’s got left. But the extent of the stupidity behind his actions becomes most noticeable when he makes the same assertion associated with every change: the story he is telling has been confirmed by the same three individuals. This type of awkward arrogance and contempt for the public just isn’t possible in a normal, honest world.

Eventually researchers contacted the three witnesses to find out for themselves exactly what could be confirmed and what was still undetermined. It seemed to be necessarily urgent in September 2010 when Robert Salas and *UFOs and Nukes* author Robert Hastings hosted a press conference at the National Press Club in Washington, DC for previously confirmed members of the press and Congressional staff. This was an attempt to build support for the disclosure of

UFO-related documents that were still classified by the U.S. Department of Defense. Given that the public brouhaha was directed primarily at Congressional staff while ignoring entirely the Executive Branch that could actually instigate changes within the Department of Defense, perhaps “necessarily urgent” was an overly apprehensive sort of description for a motivating factor. The general feeling, however, was that a 43-year old story that had been publicly discussed as the paranoid extension of UFO fears and idiocy for 15-years had never been properly examined by anybody, but was nonetheless considered one of the best documented and most believable UFO incidents in history. As a result, it represented a twisted reality that was somewhat hard to abandon as just ordinary yet insignificant piffle.

Even worse, under the influence of author Robert Hastings, some military UFO witnesses were starting to get together and change their stories just enough, so previous differences and contradictions were removed, thereby making their stories or supporting experiences more believable. And yet, the fact remains that from 1997 when Robert Salas appeared on the cable television series “Sightings” to the 2010 press briefing in Washington, DC, none of his three primary witnesses ever appeared to confirm his claims in public. So, researchers sought them out to ask about the inconsistencies that were so typical of Robert Salas’ claims.

Walt Figel’s Testimony

Colonel (Retired) Walt Figel, Jr., Deputy Commander Echo Flight, addressed the issue of inconsistencies when he gave his final appraisal of the matter in 2010, just prior to the September press briefing in Washington, DC:

Bob Salas was never associated with any shutdown of any missiles at any time in any flight and you can take that to the bank. Just think about this for a split second. He is a person wrapped up in UFOs to the Nth degree. Yet he could not remember he was not at Echo. Then he thought he was at November — wrong again. Then he thought he was at Oscar — wrong again. ...

... There is no record about anything happening at November or Oscar except in people’s minds that are flawed beyond imagination. Salas has created events out of the thin air and can’t get the facts straight even then. My best friend to this day was the Flight Commander of the 10th SMS at the time. He and I have discussed this silly assertion in the past couple of years — he thinks it is all made-up nonsense for sure. I put both Salas and Hastings in touch with him and he has told them both that an incident at November or Oscar never happened. In addition, he was subsequently stationed at Norton AFB where the engineers tested the possible problems. No little green men were responsible. ...

... I have always maintained that I do not nor have I ever believed that UFOs exist in any form at any place at any time. I have never seen one or reported that I have seen one. I have always maintained that they had nothing to do with the shutdown of Echo Flight in Montana. ...

... There is no Air Force “cover-up” [of the events of March 1967]; it just did not happen the way Salas has portrayed the course of events. ... He has made a 15 year career pandering about the country talking about things he has no knowledge about. I am not at all interested in taking them

*on – it's not worth my effort — I have more important things to do with my life. I'd much rather just stay out of it. [Some minor typos remain uncorrected.]*⁸

For many weeks prior to this final appraisal, he had repeatedly insisted to the author in various email communications that he had consistently informed both Salas and Hastings that the claims they were trying to establish were wrong. There was no UFO at Echo Flight, and there were no missile failures at November Flight or Oscar Flight.⁹

Frederick Meiwald's Testimony

Colonel (Retired) Frederick Meiwald, Commander Oscar Flight, also insisted that he doesn't believe in UFOs — a strange comment to make in light of Salas' insistence that a UFO took out the missiles at Oscar Flight during an incident that resulted in an injury to one non-commissioned officer, requiring that man to be evacuated from the site by helicopter. When interviewed by researcher Robert Hastings, he stated unequivocally that he doesn't remember anything at all about a UFO. In fact, Robert Hastings himself has written (and published to both Frank Warren's UFO CHRONICLES website at <https://www.theufochronicles.com/> and in his own website as noted in the footnotes):

Meiwald then elaborated and said that he couldn't support everything Salas has said about the incident because he had been resting/sleeping when the first missile or two dropped offline — which occurred moments after Salas received a report from the Oscar Flight Security Controller about a UFO hovering over the Launch Control Facility's front gate.

*Although Salas had quickly told Meiwald about that telephone conversation, Meiwald says that he can't remember it.*¹⁰

In another interview conducted by Hastings, Meiwald is equally clear:

RH: Okay. Now, when Bob, I think moments [after] he woke you up, or you got up and sat down at the commander's console — he of course had received a call from the Flight Security Controller, saying that there was a bright red, oval-shaped object hovering over the security fence gate — my understanding is that is what he told you as soon as you were at your console, that he had received this call and, uh, that of course coincided with the missiles beginning to malfunction. Do you recall him telling you that?

*FM: I really don't remember that portion of it, relative to the bright object. I remember an unusual condition [but] as far as the details, uh, I can't elaborate on that.*¹¹

The following exchange is also revealing:

⁸

<https://web.archive.org/web/20160714033806/http://www.realityuncovered.net/blog/2010/09/the-echo-flight-ufo-debate-continues/>

⁹

<https://web.archive.org/web/20101106091259/http://www.realityuncovered.net/blog/2010/09/the-malmstrom-afb-missile-ufo-incident-part-ii/>

¹⁰ <https://www.ufohastings.com/articles/echo-flight-ufo-incident-not-unique>

¹¹ See Footnote #10.

RH: Okay. He of course has also said that you two were, uh, when you were back at Malmstrom, you were debriefed by OSI and required to sign non-disclosure statements. Do you remember that?

FM: I remember being directed to do that. But that was no problem. I've been one of these people, when told to forget something, I forget it — eventually [inaudible].

RH: Right, well, is that a polite way of saying that you really don't want to discuss this, even though you know more than you're saying?

FM: No, I'm saying I don't remember.¹²

It would be difficult to get any more definitive In a letter dated October 1, 1996 from Frederick Meiwald to Robert Salas, Meiwald insists that there was no debriefing by OSI and he was not required to sign non-disclosure statements in regard to any UFOs he allegedly witnessed, contrary to Salas' testimony since 1996. He clearly states there was no follow-up by any Wing personnel. He also states in that letter that what he recalls is very different from the bulk of Salas' testimony. For instance, he states that he checked his personal records and could confirm that both he and Salas had served at Oscar Flight alone. This was in 1996, which means that Robert Salas went on to claim for the next three years that he was serving at November Flight, and that Colonel (Retired) Frederick Meiwald, Commander Oscar Flight, had confirmed his entire story. In actuality, Meiwald never confirmed Salas' UFO claims, until he allegedly confirmed that Salas was "very accurate" in a phone conversation with Robert Hastings in 2011 just prior to his tragic and unfortunate death. Given the lengths Robert Hastings has gone in the past to discredit or distort the claims of every witness involved in the Echo Flight Incident, there is reason to doubt this claim. The fact is, Meiwald's October 1996 letter asserts that the security witnesses to the only UFO sighting he has ever discussed with Hastings and Salas were instructed to report the matter to civilian authorities, an instruction that was never applied to military witnesses until after Project Blue Book was terminated on December 17, 1969.

In a personal email to Raymond Fowler written on August 14, 1996, Robert Salas tells Fowler all about having communicated with Meiwald. His recollections are extremely different from what Meiwald wrote to him in his letter, but we should keep in mind that Salas very much wanted to get on Fowler's good side, believing that Fowler had contacts who could help him get his story the support it would never really deserve.

I was lucky enough to locate the man who was my MCC on the day of the incidents. [At this point, Salas was still insisting that both missile failures incidents occurred on the same date.] I spoke with him by phone, briefly. He certainly recalled the incident in the sequence I outlined with one exception. He believes we "lost" four LFs instead of all. But our memories coincide on every other point. I didn't ask him what flight we were controlling, but it was probably November Flight [it wasn't — the Command histories establish that due to the UFO rumors developing in the weeks following the Echo Flight Incident, a maintenance crew that was out all night at November Flight was queried about the events that occurred, and they insisted that nothing abnormal happened. The only reason anybody bothered to talk to them was because they were the only maintenance crew that was outside on March 16, 1967. Since November Flight was the only other flight mentioned in the documents Salas wanted to exploit, once it was proven that he was not at Echo Flight, he decided to claim that he was serving at November Flight. The Command histories, however, state clearly that nothing happened at November Flight on March 16, 1967.

¹² See Footnote #10.

They also state that no other missiles at any other flights were taken off of alert on March 16, 1967. The only missiles that failed were at Echo Flight.] *He also added that he remembers receiving a call from one of the LFs where we had a roving security patrol that saw a UFO at very close range. He said these men were so traumatized by the experience that they never returned to security duty.*¹³

A proper examination of the letter Meiwald wrote establishes that Salas was unwilling to give an honest account even at that early date. Meiwald was unable to confirm that the one UFO incident he was aware of happened during a missile failures event, and his account proves that he was not in communication with the members of the security patrol, as Salas reports. Meiwald received all the information second hand, which proves that there was no missile failures event. Had the missiles failed, Meiwald would have been in charge of all security protocol and would have been in direct communication with the individuals who reported the UFO. Instead, he freely admits that he didn't have all of the information. Details in the letter regarding who the witnesses were supposed to report the UFO to suggest that the event actually occurred after Project Blue Book was terminated in December 1969. Nothing in this report serves as a confirmation of Salas' claims. It's just more nonsense that Salas has failed to properly examine.

For nearly ten years Salas insisted that either Captain (Retired) Eric D. Carlson, Commander Echo Flight, the SAC Commander on duty at the time, or someone else — more inconsistencies noted in three tellings of the story — had called Meiwald on March 16 and told him all about the events that happened at Echo Flight. Salas insisted he had a very clear memory of that event taking place. When interviewed by Hastings, Meiwald stated, "Whatever happened over at Echo, I have no idea." He has rebuffed completely all attempts to establish confirmation for the UFOs of March 16 and 24, 1967, that Salas has invented.

Salas' own inconsistent reporting asserts that Meiwald would only confirm four missiles failing during the one missile failures event he has allegedly recalled, but this number would later change in Salas' retelling of the "confirmation" to 5-6 and then 7-8 missiles being affected. Salas himself asserts that he remembers very well that the entire flight of ten missiles dropped offline, but the incident itself was never documented by the USAF, even though the Echo Flight Incident a week earlier had been very thoroughly documented in both message traffic and the command histories consistently over the course of the following year. Although it is not only standard procedure to report all equipment failures that occur, it was an actual requirement under USAF nuclear weapons policy. Nevertheless, not a single equipment failure report has ever been discovered for equipment at Malmstrom AFB, let alone reports documenting the failure of multiple missiles for March 24, 1967. More importantly, there is at least one summary report that insists very clearly that there were no equipment failures at all for March 24-25, 1967, the date Robert Salas affirms for his otherwise unreported and nonexistent Oscar Flight Incident.

¹³ All email text was provided to the author by Raymond Fowler in September 2010.

10/1/96

Hello Bob,

Sorry about the delay in responding to your correspondence. Since talking to you, we have been on trips to Montana and Utah and attempting to coordinate repair efforts on a condo which we own in Glendale, AZ - on Aug 14, a storm with winds up to 125MPH with hail and 3" of rain within one hour did about \$7,000 in damages.

The info you provided is very interesting but I have slightly different memories - which could easily be incorrect as they say, "The memory is the second thing to go."

My records indicate that we were formed as a crew in Sep 66 in "N" status. I don't have the date of upgrade to "R". Our home site was Oscar. I left crew duty for the Command Post in early Nov 67.

Related to the incident itself, I recall us being at the Oscar LCF. Topside security notified us the mobile team had reported observing the "UFO" while responding (obviously at your direction) to a situation at an outlying LF - this particular one being located just east of Highway 19, the state highway which runs north from Grass Range to the Missouri River. With little or no direction from higher authority (Command Post or Alternate Command Post), the Security team was directed to return to the LCF, maintaining radio contact at all times, as the security system reset. While enroute back to the LCF, radio contact was lost and remained out until the security vehicle approached the LCF. Two very upset young men wasted no time getting back inside.

I do not recall personnel injury of any type but the two individuals were sent back to the support base early. I heard second-hand that one was released from security team duties.

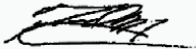
I do not recall any follow-up activities by any Wing personnel. The Command Post checklist, as I recall, just said to report any such incidents to civilian offices.

This probably does not assist your efforts in any way, but I applaud your continued interest in a fascinating area of interest. Do these alien UFOs exist? I do not know, but there are certainly enough reported situations that I must be inclined to suspect that they do. There are numerous folks who get together each year at a small town north of Las Vegas that maintain that "aliens from other planet(s) have visited this area." Some maintain that the Air Force has captured at least one.

In Montana, while we there, an individual associated with the Great Falls Electrics baseball team, a Mr. Nick Mariana (SP?) was very outspoken about his observations, complete with photographs. Have you correlated your investigations with his?

I wish you success in this challenge. Please keep me posted. If you ever get to Vegas, I hope we can get together.

Best Regards,



Originally written in 1996, the letter on the left by Colonel (Retired) Frederick Meiwald has been used by Robert Salas and Robert Hastings to confirm the missile shutdown incident due to UFO interference at Oscar Flight. With the exception of interview transcripts published years later by Robert Hastings, this letter is the only actual statement that can be attributed to Colonel (Retired) Meiwald. It also represents the first time since 1996 that Salas and CUFON actually identified by name Salas' commander, who, according to Salas, had previously confirmed the UFO incident under examination in its entirety, a confirmation that remained consistent for both November Flight and Oscar Flight. Unfortunately, this supposed consistency of confirmations also proves that Meiwald had already informed Salas that they had been serving at Oscar Flight, and that Salas was very much aware of this fact for the entire three year period that he was claiming to be at November Flight! Additionally, Meiwald does not discuss any missile failures in his letter, and the one UFO story he does discuss is from the point of view of a very commonly deployed 2-man security patrol, which is unsurprising given that Meiwald was transferred to the Command Post (top-side security for each flight of missiles) in November 1967. Mention that instructions ordered the report be made to civilian authority strongly suggests that the incident didn't occur until December 1969, when Project Blue Book was terminated.

As for the UFO that Salas insists shut down the missiles at Oscar Flight, Meiwald has NEVER stated that the one UFO story he told Salas about in the above-mentioned 1996 letter had anything at all to do with missile failures; it's never even been mentioned in context. The details of the incident Meiwald has discussed in the letter suggest that not only was the incident unlikely to have been coincident with a missile failures event, but it also very likely occurred after December 17, 1969 due to actions taken that would not have been ordered until after Project Blue Book had been terminated. Meiwald states clearly that personnel were told to report UFO sightings to civilian authority, not USAF, a standard procedure that was only required after Project Blue Book was shut down in December 1969, proving that that the incident could not possibly be associated with anything that took place in March 1967.

Eric D. Carlson's Testimony

Captain (Retired) Eric D. Carlson, Commander Echo Flight, has been remarkably consistent regarding the incident since 1996 when Salas and CUFON first made public their claims. He has always insisted that there was no UFO coincident to the missile failures at Echo Flight. In a newspaper article published in Great Falls, Montana shortly before the "Sightings" episode featuring Robert Salas was aired, he states that he remembers a "vague description of a UFO sighting," but nothing relevant. He ignored it, because, as he says in the article, "UFO sightings were a dime a dozen at that time. It seemed like nearly every security group squadron saw them some time or other. But I spent a lot of time outdoors in Montana, and I never saw them."

The "vague description" aspect was later confirmed by Deputy Commander Walt Figel, Jr., who mentioned that one of the maintenance crew members sent out to check on the status of the missiles made a "joke" reference to a UFO about two hours after the missiles failed. Figel states that this relatively offhand statement was both intended to be and interpreted as a joke, adding that none of the maintenance nor security personnel ever filed a UFO report — which was a requirement under USAF directives worldwide.

Nobody ever believed a UFO was present at any time, so nobody ever officially reported a UFO, including every member of the security detachment manning the Echo Flight command post topside. If there had been such a report, it would have been investigated by the Command UFO Officer in accordance with USAF directives, because the Condon UFO Study out of the University of Colorado was still active at the time (Condon's report was ultimately used by the USAF as reason to terminate Project Blue Book on December 17, 1969). There was no investigation of a UFO at Echo Flight because there was no UFO. The entire incident was automatically declassified in 1979 under security protocol originally ordered by President Kennedy some years before, so there were no legal risks to disclosing the alleged UFO activity for any time after 1979. Review of all the documentation proves that there was no UFO interference at Echo Flight, and there was no full-flight failure of missiles at Oscar Flight.

Robert Salas' Inconsistencies

At one point or another since 1996, Robert Salas has changed nearly every detail of the story he's been repeatedly selling since then (these are too extensive to be discussed in this short article, but every detail of the changes instituted by Robert Salas and CUFON since 1996 has been carefully recorded with extensive footnotes and internet links in a book length narrative by this author).¹⁴

Robert Salas' original claim was that he was the deputy commander at Echo Flight when the incident occurred on March 16, 1967. According to email and UPS communications from CUFON to Raymond Fowler, Salas was making those claims within the UFO proponent community for 3-years. That fallacy was noted almost immediately after he decided to publish his claims, so he stated for the next few years that he was the deputy commander at November Flight on March 16, 1967, and had been appraised of the UFO interference with the Echo Flight missiles on the telephone during the UFO instigated failure of missiles at his own command

¹⁴ Carlson, James, "Americans, Credulous or The Arrogance of Congenital Liars & Other Character Defects. Establishing the Truth Behind the Echo Flight UFO Incident of March 16, 1967," February 10, 2010. <https://es.scribd.com/doc/26641522/Americans-Credulous-by-James-Carlson>

(during this entire 3-year period, Salas was in possession of a letter from his commander stating that he was actually at Oscar Flight, a happenstance confirmed by his own personnel file). He could have easily retracted his Echo Flight claims and simply asserted that he made a mistake and the UFO interference had only occurred at Oscar Flight, but he had already invested too much credibility into the documentation of the Echo Flight missile failures, and apparently determined that he had to keep the missile failures at Echo Flight in order to retain that credibility. There has never been any documentation of the failures he insists occurred at November Flight and then Oscar Flight. Command and unit histories have never recorded such an event that he and Hastings have proposed, although such records have been very extensive for Echo Flight. That may be why he insists so strongly that the UFO event he describes took place at Echo Flight as well as November Flight.

In 2000, for the Disclosure Project debrief, Salas changed his claim again, stating that identical incidents occurred at both Echo Flight and Oscar Flight on March 16, 1967, while he was attached as deputy commander of Oscar Flight. Eight years later, at the suggestion of Robert Hastings, he insisted that a UFO took out the missiles at Echo Flight on March 16, 1967, and at Oscar Flight on March 24, 1967. When this change was instituted, James Klotz and CUFON formally retracted their support for the claims. Apparently there was a line in the sand beyond which they were unwilling to cross. One suspects that at some point, dishonesty gives way to stupidity, and while CUFON had few qualms about the reliance on dishonesty to further their goals, stupidity was a different matter altogether, a color of distinction they had no desire to be painted with.

Salas has asserted that he found out about the missile failures at Echo Flight having been compromised by a UFO when Carlson, the Echo Flight Commander, telephoned Meiwald, the alleged commander at November Flight, to notify him of the matter. He later insisted that it was Walt Figel, Jr., Echo Flight Deputy Commander who called him. When it was pointed out that the flights were manned by two separate squadrons, so no communications at all would have taken place between the two commanders, he changed this detail to state that the SAC Commander called Meiwald to tell him about the Echo Flight Incident during the incident that was in process at November Flight, and later still Oscar Flight. When it was pointed out that there were no UFO sightings or reports of a UFO on March 16, 1967, Salas changed the date of his Oscar Flight claims to March 24, 1967, when UFOs were actually reported over or near Malmstrom AFB airspace. When he changed the date, he changed the conditions of notification as well, alleging that nobody called them to notify them about a UFO at Echo Flight, because they had already been debriefed on the subject of UFOs prior to their watch. Doubts, of course, had already been sowed prior to this change, however, because Salas had repeatedly established that his story — first at November Flight and then at Oscar Flight — had occurred at night. All of his previous claims had established as well that the incident occurred at Echo Flight first. The Echo Flight missiles, however, started dropping off of alert at 08:45 a.m., about two hours after the sun came up. The details of Salas' consistently evolving story have repeatedly turned his claims into a mass of contradictions and idiocy, because he habitually changes every detail of his claims whenever it is pointed out that certain details of the story cannot possibly be true for whatever reason. Not only was Salas repeatedly forced to change his claims that he and Meiwald were debriefed about Echo Flight on the telephone during the alleged incident at Oscar Flight, because he couldn't get any of the details right, later interviews conducted by both Hastings and

Salas with Colonel (Retired) Frederick Meiwald repeatedly confirmed that Meiwald had no idea what happened at Echo Flight.¹⁵

There are only two aspects of Robert Salas' UFO claims that have remained unchanged: (1) the entire flight of all ten missiles at Echo Flight was interfered with by a UFO — and (2) Salas' assertion that throughout the numerous changes made to his story, every detail of his claims have been repeatedly confirmed by Eric D. Carlson, Walt Figel, Jr., and Frederick C. Meiwald. Salas would never have changed a single point of his assertions regarding aspect (1), the Echo Flight Incident, because it represents the only full flight failure of missiles that has ever occurred in this country, and it has been and remains the foundation of Robert Salas' and CUFON's entire book of lies used to stoke paranoia and fear throughout the nation. It was a sad and dishonest attempt to generate a public call for a well-funded investigation of UFOs in American airspace. The whole point was to prove that the Condon UFO Study used to terminate Project Blue Book was lying when it concluded that UFOs have never been the cause of a national security threat. They were so desperate to establish a case that would convince Congress of the necessity for a more thorough and well-funded look at UFOs that they rushed into the plan without bothering to learn as much as they possibly could about the singular event in USAF history that they wanted to exploit: *the Echo Flight Incident*.

As for aspect (2) of his claims — that throughout the numerous changes he has inserted and then removed from his claims, three USAF missile officers — Walt Figel, Jr., Eric D. Carlson, and Frederick C. Meiwald — had repeatedly confirmed his claims, it's simply impossible to imagine that he ever gave any thought to the story he was trying to establish. There have been simply too many doubts raised by the assertion that three USAF missile officers would all confirm the details of a story that had been so extensively changed as Robert Salas' story was.

Why, for instance would his own commander inform Salas that they had both served at Oscar Flight, then confirm Salas' claim that they were at November Flight only to flip again three years later? Like every other detail of these claims, it beggars the imagination. Upon interviewing these three military officers, it became apparent almost immediately that not only were they unwilling to confirm any of the details alleged by Robert Salas, but they also insisted strongly that Robert Salas was never involved in a missile failures incident, and UFOs had never been linked to any of the missile failures these men had been witness to. There was no UFO at Echo Flight, and a missile failures incident with or without UFOs had never occurred at November Flight or Oscar Flight. The story was fiction from beginning to end.

Captain (Retired) Eric Carlson stated that he was available to be interviewed for the "Sightings" episode that aired in 1997, a point which was confirmed in Salas' email communications to Raymond Fowler. The producer of "Sightings," however, did not believe he would be useful, and they refused to use him as a witness, even though Salas believed it was imperative to have somebody from Echo Flight on the show. Carlson believed as late as 2019 that he wasn't asked to be on the show, because he refused to confirm any presence of a UFO at Echo Flight. He also told the producer of "Sightings" that there were no missile failures at November Flight, which was also unhelpful (Salas would later retract his November Flight claims in favor of an Oscar

¹⁵ See Footnote #10.

Flight incident). In the comments section at the Reality Uncovered website, Eric Carlson again denies the presence of a UFO:

*To date no one, other than Salas and Hastings have contacted me. I don't know if Salas is lying, if he has told the story so many times that he believes it, or he truly believes it, but it is false. There were not UFOs reported and Oscar Flight did not shut down.*¹⁶

As a result of this comment, Captain (Retired) Eric Carlson was finally interviewed by Ryan Dube, a journalist who has been published at numerous websites including Reality Uncovered.¹⁷ He again denied any presence of a UFO, asserting that no UFO had been witnessed, reported or investigated at Echo Flight as a result of the events of March 16, 1967. All of the evidence tends to support his consistent claims. Had a UFO been witnessed, any failure to report that UFO would have been a violation of multiple USAF directives. Not a single UFO report for March 16, 1967, has ever been noted.

Multiple reports for UFOs were established for March 24, 1967. Robert Salas finally affirmed a date of March 24, 1967, for the Oscar Flight missile failures that every other witness insists never occurred. He did this at the recommendation of Robert Hastings in 2008, 12 years after originally establishing his claims. A report written by the Malmstrom AFB UFO Officer in March 1967, Colonel Lewis D. Chase, confirms that there were no equipment failures at all on Malmstrom AFB on March 24-25, 1967. This was written in response to a query by the Foreign Technology Division about UFO rumors asserted by one individual in the weeks following the Echo Flight Incident. The phone calls they had received insisted that a UFO had shut down the missiles at Echo Flight on March 24, 1967, and given that the Echo Flight Incident had taken place on March 16, 1967, and Chase had thoroughly investigated the UFO reports of March 24, 1967, as required by USAF directives, the Foreign Technology Division had requested an addendum to Chase's original report of his investigation of the March 24 UFO reports. His addendum insisted that there were no equipment failures base-wide on March 24. Later email communications from Raymond Fowler establish a high probability that he was responsible for all of the UFO rumors that have plagued the Echo Flight Incident, all due to the fact that he did not know the date of the actual incident. This tracking of the UFO rumors has been fully documented by the author.¹⁸

Conclusions

Robert Salas is still asserting his claims in regard to UFO interference with nuclear missiles, most recently during an October 21, 2021, press briefing intended to gain the attention of Congress. He is still insisting that his claims have been completely confirmed by USAF missile officers Eric Carlson, Walt Figel, Jr., and Frederick Meiwald. Eric Carlson and Frederick Meiwald have both passed away and can no longer assert for themselves the truth of what occurred. This is typical of Robert Salas, who asserts as well that Malmstrom AFB UFO Officer

¹⁶ See Footnote #9.

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<https://web.archive.org/web/20100925040151/http://www.realityuncovered.net/blog/2010/09/an-interview-with-malmstrom-afb-witness-eric-carlson/>

¹⁸ Carlson, James, "Echo Flights of Fantasy - Anatomy of A UFO Hoax,"

<https://www.scribd.com/document/42303580/Echo-flights-of-Fantasy-Anatomy-of-a-UFO-Hoax-by-James-Carlson>

Lewis D, Chase has repeatedly lied about the events of March 24, 1967, in his official reports, making such claims only after Chase died and could not defend himself.

Salas has settled on the claim that UFOs interfered with the nation's nuclear deterrent forces on March 16 and 24, 1967, first at Echo Flight and then at Oscar Flight. Robert Hastings has reportedly produced another ex-military witness who has reported being on duty during a full flight failure of missiles at Minot AFB that was caused by a UFO during the same period. Apparently, Robert Salas has been successful in his attempts to persuade others to learn from his example.

The USAF has always and continues to affirm that the only full flight failure of missiles to ever occur in the United States took place at Echo Flight on March 16, 1967. That incident was fully investigated over the course of the following year and it was determined to have been caused by a random noise pulse similar in effect to an EMP. The component of Minuteman I that was most vulnerable to noise pulse was the logic coupler of the guidance and control system. Subsequent tests showed that the same part in Minuteman II was equally sensitive to this same phenomenon. By the end of fiscal year 1968, the incorporation of electromagnetic shielding had been added to general maintenance orders. Afterwards, no such incidents ever recurred. The problem was investigated and subsequently resolved.¹⁹

The military documentation amounts to over 80-pages of military messages and command, unit and ICBM histories that as a whole detail the entire story of what happened to our nuclear forces in March 1967. The author has collected all of the documents and published them within a book-length narrative.²⁰ Captain (Retired) Eric D. Carlson summed up the whole issue nicely in an email communication to his son, James Carlson, stating: *Robert Salas is either lying or delusional. There was no UFO at Echo Flight. There were no missile failures at November Flight or Oscar Flight.*

(Final statement: Captain Eric D. Carlson peacefully passed away in August 2021 at the age of 84. He was my father. Everything I have written in regard to the Echo Flight incident has been previously fact-checked by him. I have asserted his claims from the very beginning, and all of my subsequent research supports those claims. All of the witnesses to this singular event in USAF history have affirmed that he was dutifully honest in all things. If he had no first-hand knowledge with which to enhance testimony in regard to any subject, he said nothing at all. He never sought to attack those who disagreed with his conclusions, and the only reason he bothered to discuss Echo Flight at all, was because he was asked about it by a newspaper reporter in Great Falls, Montana, and by the producer of the SyFy Channel series "Sightings." He refused to discuss the matter unless he was asked about it directly. He thought lying was the resort of cowards, and he found the practice worthy of only scorn and contempt. He was one of the most purely civilized men I have ever known.)

(All web articles accessed on December 9, 2022.)

¹⁹ See Footnote #4.

²⁰ See Footnote #14.

Meeting the Abductees: Betty Hill, Richard Price & Others

Peter Huston

Abstract: How believable are people who claim to be UFO abductees? An informal assessment based on interviews with Betty Hill, Richard Price, Sr, and attendance at Budd Hopkins's Intruder Foundation's Year 2000 UFO Abduction Conference. The author discusses his impressions, concluding that alternate explanations are more believable than the alien abduction hypothesis.

Keywords: UFO Abduction, Betty Hill, Richard Price, Implants, Budd Hopkins

Few subjects in Ufology captivate like abduction claims (no pun intended). That beings from a mysterious realm, perhaps extraterrestrial, perhaps something even more exotic and mysterious, might be visiting our world is fascinating on its own. If, as many claim, they are entering our world to seize humans, paralyze them, tamper with their memories, even probe their rectum and sample their DNA, sometimes leaving mysterious implants in people, or causing strange pregnancies as part of a cosmic experiment, is unavoidably disturbing and attention grabbing. To those who believe, the abductee reports and stories are a sign that our very species is on the cusp of a great change, perhaps utopian, perhaps one where humanity's right to rule and manage our own planet, even our lives, may be in danger.

Yet even the most mundane interpretation, that the claims can be explained by psychology, offers an extreme example of the flexible way the human species at times interprets or distorts reality. Either way, the abduction claims are worth examining.

Who are these abductees and how believable are they? While I do not claim to be an expert, I have met some well-known and not so well-known UFO abductees. Here I offer my thoughts and opinions on three contacts that took place approximately 20 years ago, arguably the height of interest in UFO abduction claims. First is an interview with Betty Hill, widely known as the first UFO abductee to be taken seriously by ordinary people. The second was Richard Price, Sr, a man who reported not just being abducted by space aliens but also claimed physical proof of this encounter. The third was attendance at a large gathering of ufologists and self-identified abductees in Queens, New York, held by Budd Hopkins's Intruders Foundation, an organization devoted to researching such claims and networking and sharing its beliefs with people who suspected themselves to be alien abductees.

Betty Hill

Betty and Barney Hill are probably the best-known UFO abductees of all time. Reportedly, on September 19, 1961, while driving through the mountains of New Hampshire, the couple were taken aboard an alien spacecraft and inspected and interviewed by the extraterrestrials aboard. Betty Hill, who was born on June 28, 1919, was 42 at the time. Her husband, Barney, was 39. As the couple had no reason to lie about the alleged encounter and were known members of the community, there was little reason to suspect a hoax. Although Betty Hill did have an interest in both science fiction and UFO reports, and spoke about the alleged encounter soon afterwards,

neither of these things discounted her claim. As they were known as relatively normal members of their community, many believed her.¹

My personal encounter with Betty Hill occurred in 1998, when I called her up, introduced myself as a journalist, and asked for an interview.² She invited me to come to her house in small town New Hampshire. We met on October 1, 1998. Betty Hill was then 79, and it had been over 37 years since the alleged incident that had changed her life and made her famous.

Like almost everyone who had the privilege of meeting Betty Hill, I greatly enjoyed our time together. We spoke for a couple hours and then went out for dinner, getting some of the local fried seafood. As a full transcript of the interview is available online in at least two places,³ I'm going to simply summarize some key points here. While doing so makes things concise and easy to understand, it does miss much of the flavor of Betty Hill's style of speaking and the way she tended to bounce from topic to topic, shifting mid-stream, then bouncing back again, in a rambling but delightful way.

When in the presence of Betty Hill, I felt like I was in the presence of someone of great importance, and I was not alone in that. To me, a non-believer in UFOs as spaceships, Betty Hill was a woman of historic importance, to those who believed she was even more.

My friend Tom Calarco, a published author and Underground Railroad researcher who believes that at least some UFOs are alien spacecraft, met Betty Hill in 1978 when he spent a summer investigating UFO sightings in New Hampshire. He has described his feelings dramatically:

*Wow, was I ever flabbergasted when I found Betty Hill at my cabin door. To me she was more than a celebrity. She was a living link between humanity and the great unknown. . . . I couldn't believe it! Betty Hill! Bill, my girlfriend soon led them directly to my cabin. I couldn't believe it. This was actually Betty Hill! She was a friendly, little, gray-haired lady, older than I expected. But she was smiling and appeared friendly enough and she had come all the way here just to see me!*⁴

Although a skeptic, I, too, was thrilled to meet Betty Hill and felt that I was in the presence of someone of historic importance, who was the starting point of a significant belief system.

¹ Curtis Peebles. 1994. *Watch the Skies, A Chronicle of the Flying Saucer Myth*. (Washington and London: Smithsonian Institution Press), pp. 160-166.

Susan A. Clancy. 2005. *Abducted, How People Come to Believe They Were Kidnapped by Aliens*. (Cambridge, Massachusetts and London: Harvard University Press), pp. 94-99.

² I had taken an assignment to write an article on UFO abductions for *Hustler*, the famed pornographic magazine founded by Larry Flynt. I had originally contacted the publication, having been impressed by the journalistic work Adam Parfrey did there. Due to editorial changes, I'm afraid the editorial staff there was not interested in a serious piece on the topic, edited my submission heavily, and I did not work for them again. More of this story can be read in my book, *More Scams from the Great Beyond*. Some of Adam Parfrey's journalistic writing can be found in his books *Apocalypse Culture*, *Cult Rapture*, and *Apocalypse Culture II*.

³ <https://web.archive.org/web/20040618113115/http://www.capital.net/com/phuston/bettyhill.html> and <http://peterhuston.blogspot.com/2021/06/transcript-of-interview-with-betty-hill.html>

⁴ Like the transcript of the Betty Hill interview, this is in at least two places on the Tom Calarco's website, *Confessions of a Red-Hot UFO Investigator*, <https://web.archive.org/web/20050118111705/http://www.capital.net/com/phuston/calarcointegration.html> and <http://peterhuston.blogspot.com/2021/06/tom-calarcos-fo-red-hot-ufo.html>

Speaking with Betty Hill at the time, as reading her 1995 book, reveals an odd mixture of countless fanciful statements mixed in with common sense and social concern.



Betty Hill and the author, 1998, in her home at the time of the interview.

A few highlights from our interview, with the reminder this interview occurred near the end of her life after 37 years of enthusiastic contact from ufologists and UFO fandom:

- Betty Hill stated she saw UFOs on a regular basis at this point in her life. When asked what people who question the reality of UFOs should do to determine if they are true or not, her answer was that they should simply look around more. If one reads her book, “A Common Sense Approach to UFOs,” written shortly before this time, it offers great insight into how she saw and approached the world. She was constantly being contacted by people who believed in UFOs, and when she went out with these new friends to look for them, well, they saw them. And countless people, including local law enforcement and public officials, knew her as a nice lady who saw UFOs, and they assured her they saw UFOs as well and shared their stories. If one reads “A Common Sense Approach to UFOs” not only does it seem that most people in her region of New Hampshire saw UFOs fairly regularly, but so did the people in most places where she visited. Of course, most places where she visited, it was because she was invited to speak on UFOs and so it had been for 37 years.⁵
- Apparently, her belief that UFOs could be easily seen was nothing new. Tom Calarco described a visit in 1978 to Betty Hill’s home, where she, accompanied by two boarders who also said they were abductees, presented him with a slide show:

Inside, Betty soon turned on the slide projector. Most of what we saw looked like photos of planes at night, their lights silhouetted against the sky. There was one of interest, though, of these small balls of light that appeared to be flying around some trees. Trick photography? I couldn't tell. A movie followed. It was shot with a super-8, and in order to catch glimpses of the barely flickering points of colored light she claimed were UFOs, we had to sit with our noses in the screen. Her explanation that the fleeting quality of the images was due to their fantastic speed was difficult to accept. It was as if the film were taken of the night sky with bits of light being picked up from

⁵ Betty Hill. 1995. *A Common Sense Approach to UFOs*, (Greenland, New Hampshire: Published by Betty Hill).

*planes passing across in the distance. Though she promised to take me to one of her secret spots some other time, my first doubts about her story emerged.*⁶

This was almost 17 years after the alleged abduction, and although Tom Calarco tells me that Betty Hill spoke of her abduction with such emotion that he's convinced something happened to her, clearly there are aspects of her claims that leave him confused and wondering. It must be stated that a likely explanation for many of Betty Hill's strange statements was reinforcement of the beliefs by visitors. For better or worse, neither Tom Calarco or I confronted or challenged Betty Hill during her stories.

- Aliens often take things from UFO abductees, according to Betty Hill, sometimes after secretly entering their homes, and return them later, seemingly for no reason. One has to wonder if Betty Hill shared my problem of forgetting where one puts things but had found a more interesting way to deal with it than self-blame.
- Betty Hill had grown convinced that hypnosis distorts or changes memory. She was quite firm on this important point. She explicitly said that any report of a UFO abduction should be discarded as unreliable if hypnosis had been used during an interview. This is consistent with scientific understanding of how hypnosis distorts memory and encourages confabulation and the creation of false memories. She was quite clear on this and repeated it in her book where she very clearly states "if repressed memories of rape are invalid in New Hampshire, the same thinking applies to rape on board a UFO. And it probably applies to all 'repressed memories' of missing time."⁷
- Except in her case. Betty Hill also affirmed, with no hesitation or irony, that her case was special and had been done with "medical hypnosis." According to Hill, the couple's hypnosis had been performed by Benjamin Simon, a leading psychiatrist of the time.⁸ Hill claimed that Simon used "medical hypnosis," a special kind of hypnosis that no one is able to do these days, and that "medical hypnosis" does produce accurate memory recall. Although she said this when interviewed, I found no such statement in her book. I have read several books and spoken to experts and have never heard this claim before, nor have I ever heard a reference to "medical hypnosis" elsewhere.

I can only speculate on why she was saying this. Perhaps she was unable to accept that she had spent decades believing a lie and spent so much time pursuing a premise, the premise that she and her husband had been abducted by space aliens, that was now easily explained away. Or perhaps, and while it may be a stretch, I admit, she knew that if she were to suddenly deny being

⁶ Tom Calarco. *Confessions of a Red-Hot UFO Investigator* website, see Footnote #4.

⁷ Betty Hill. *A Common Sense Approach to UFOs*, p. 93.

⁸ Benjamin Simon is seen using hypnosis to treat combat veterans suffering from "shell shock" in the 1946 documentary on Post Traumatic Stress Disorder, *Let There Be Light*, which was produced by John Huston.

David J. Halperin. "The Moment the Myth of Alien Abduction Was Born, Betty and Barney Hill Took an Interesting Trip to the Doctor's Office," *Literary Hub* (blog), March 26, 2020, <https://lithub.com/the-moment-the-myth-of-alien-abduction-was-born/>

Robert Sheaffer. "Dr. Simon Reveals his Real Thoughts on the Hill "UFO Abduction Case," in *Bad UFOs: Skepticism, UFOs, and The Universe* (blog), December 23, 2015, <https://badufos.blogspot.com/2015/12/dr-simon-reveals-his-real-thoughts-on.html>

an abductee, she'd lose influence and that the best way to combat the misuse of hypnosis in UFO abductions was to maintain her status as the first abductee to be taken seriously.

Looking back, I have had to ask myself why I did not question Betty Hill more aggressively on this important question. But I know the answer. Betty Hill was a very nice woman, charming and kind, near the end of her life, and, like most people who met her, I had no desire to upset her or hurt her so I did not probe as deeply as a journalist should have on this key issue.

- Betty Hill denied mistreatment by her abductors, and says they treated her well. She said she did not like using the term “aliens” and preferred to refer to them as “space people.”
- For decades, Betty Hill had been involved in several mainstream political activist organizations including Vote Smart and Veterans for Peace.
- Betty Hill said she avoided UFO politics and joining UFO groups as much as possible. She said she had never heard of *The Skeptical Inquirer*.

In conclusion, when I met Betty Hill, I found her a pleasant, cheerful, and idealistic woman who left the impression of being someone who spoke the truth as she saw it and had spent decades working for a better world. However, she also contradicted herself in several ways and made statements that were clearly illogical or not believable. Two examples would be her position that hypnosis distorts the memories of all witnesses, except herself, and that UFOs are easily seen and if one wishes to see one, just go outside and look.

Obviously, my interview occurred at the end of her life, after years of contact with eager, often credulous ufologists and enthusiasts anxious to hear and believe her story. Although it would be an interesting research project to try and collect interviews with Betty Hill at different stages of her life and compare them, I can say that when I met Betty Hill, although I considered her a delightful and brave woman, I did not find her a credible witness. I think the transcripts of my interview will bear this out.

Richard Price, Sr.

Richard Price, Sr. was another prominent, but lesser known, UFO abductee who I've met and whose report has received national and international media attention. In the early 1990s, Price appeared on several television programs and his story was featured in print media. These included Joan River's talk show, the docudrama series “Hard Copy,” Japanese television, and more.⁹ He spoke regularly at UFO conventions and his story was reported as plausible and worthy of discussion in *Omni* magazine¹⁰ and elsewhere including countless specialty publications aimed at hardcore UFO enthusiasts and members of the UFO community. Several of our local newspapers had written of his case and presentations.¹¹ His case is even mentioned in

⁹ Table of contents for the transcript of [Encounters], Show number: 105, Air date: July 22, 1994, http://www.ufomind.com/area51/articles/1994/encounters_940727/summary.html

¹⁰ Patrick Huyghe, “Alien implant or - human underwear? - *Omni's* Project Open Book,” *Omni*, April 1995.

Article can be found at:

https://web.archive.org/web/20050603081936/http://www.findarticles.com/p/articles/mi_m1430/is_n7_v17/ai_16848268

¹¹ Bill Eager. “Aliens Shaped His Life Cohoes Man Bemoans,” *The Times Union* (Albany, New York), January 27, 1991, p. C3.

Carl Sagan's "Demon Haunted World -Science as a Candle in the Dark."¹² His story was in the Weekly World News, the sillier spin-off of The National Inquirer.¹³ Price included these appearances on his bio and in the publicity packet that he distributed when soliciting talks.¹⁴

What made Price's claim particularly interesting was that he claimed to have hard, physical evidence of alien visitation, the so-called "Holy Grail" of Ufologists. The mysterious object, an alleged alien implant, had been reportedly implanted in Price's abdomen as an eight year old child, and years later, somehow, moved itself to inside his penis. After working its way free years after that, Price put the object in a small bottle on a chain around his neck and carried it with him everywhere he went. Ultimately, after word of this alleged implant got around in ufological circles, a portion of the object was studied by MIT physicist David Pritchard, an unprecedented event that also raised Price's profile.

Although Pritchard had concluded that the object did not seem to be of extraterrestrial origin, and more likely was a cotton fiber, perhaps from underwear, that had entered Price's urethra and developed a collagen sheath, Price staunchly believed it was and continued with public talks.

I first met Price when he began attending meetings of our group, The Inquiring Skeptics of Upper New York. The group was intended to promote science and a critical attitude to strange claims including UFO claims. I was vice-president, later president, and attended virtually all meetings. Although we claimed an open attitude towards UFO reports, the officers and bulk of members believed that there had not been scientifically proven evidence of alien visitation, and that existing UFO claims could be explained without using unproven claims of alien visitation, or, if unexplained, by definition, were lacking proof that extraterrestrials or otherworldly presences were involved.

Our advocacy of science and so-called rational explanations was done primarily through holding public lectures and panel discussions at a local library. Although many skeptics groups tend to be hostile to UFO believers, from the beginning a frequent presence at our club was an amateur astronomer with a strong belief in UFOs as alien spacecraft. He attended our meetings to spend more time with his more skeptical astronomer friends and to hear the other side of issues that he believed in. The fact that he asked questions that led to interesting answers, kept us honest, kept

Darryl Campagna. "Man Not Alone Retelling Tale of Alien Abduction," *The Times Union* (Albany, New York), May 16, 1997, p. D1.

Tim McClone. "Close Encounter? 34 Years Later, Man Sticking to Story about Alien Abduction," *The Daily Gazette*, (Schenectady, New York), February 9, 1993, pp. D1- D2.

No byline, "Cohoes Man Haunted by Belief of Alien Abduction," *The Record*, (Troy, New York) No page number. While Price had written the date, May 8, 1992 on the photocopy he distributed, the librarians at the Troy Public Library said this was not correct, and the story is not in that issue. As the paper is not indexed for that period of time or available in searchable form, to determine the correct date would be a very time-consuming task.

¹² Carl Sagan, 1996. *The Demon Haunted World* (New York: Random House), pp. 185-186.

¹³ Joe Berger. "I was operated on -by Space Aliens," *Weekly World News*, August 6, 1991, p. 3.

¹⁴ As I was not aware of any place where researchers could access Richard Price's publicity materials, I have taken the liberty of posting images of them on my blog. See "A UFO Abductee's Self-promotional Materials: Richard Price's Publicity Kit from the 1990s," *PeterHuston --A blog about my life, writings and whatever strikes my fancy* (blog), October 9, 2021, at <https://peterhuston.blogspot.com/2021/10/a-ufo-abductees-self-promotional.html>

us from getting too smug, and that he genuinely seemed to appreciate hearing our answers, made him an asset to the group even if no one ever swayed in their beliefs.

In time, he began bringing his friend, Richard Price, the UFO abductee, to our meetings. Price was well known to the local UFO community, and they often helped him out when he was having troubles such as his intermittent homelessness. Price's attendance at our meetings took us by surprise. Our skeptics group now had an internationally known UFO abductee as a regular attendee. Price would approach us periodically seeking a chance to speak at a meeting. Therefore, our officers had the chance to interact with Price in a way few skeptics did. We were also contacted by his manager, a local woman known in New Age circles who had befriended and assisted Price when he had his problems, and presented us with his publicity materials and copies of his newsletter. Unfortunately, these did little to convince us he would be a desirable speaker.

His three-page flyer advertising a previous talk at a local Howard Johnson's Hotel, presumably typed by his manager, was, for instance, typed with a capital letter at the beginning of each word on sky blue paper with cloud pictures on the first and third page. The second had a rainbow.¹⁵

There were many signs that Price was not functioning well, among them his writing in his newsletter. I have three issues: Vol V, no 1, Jan Feb Mar 1995, Vol. V No 2, April to October of 1995, and Vol VI No. 1, Oct Nov Dec 1996. The first two say "NEWSLETTER" in large capitals at the top and the third says "The Jupiter II File." All have a logo of a flying saucer.

While all speak of UFO and alleged paranormal phenomena, they also tell of family problems.

In the first five-page newsletter, three pages are about UFO abduction related topics and Price's experiences. But there's also a front-page article discussing his recent divorce and how upsetting it is that his ex-wife aborted their unborn child after the separation. Inside, there's a cute little story about finding a cat that had no UFO content, and an article describing a business dispute with paranormal filmmaker Richard Knell, who was allegedly trying to claim credit for parts of Price's story of having his implant analyzed at MIT.¹⁶

The second is three pages long. It contains a full-page personal refutation of Pritchard's analysis of his implant, updates on his books and speaking projects, and a report that his ex-wife, a different ex-wife apparently, has now committed suicide and his estranged son who he has not spoken to for four years blames him for it. Also, disturbingly, we have an article by Nancy Ziegler, a woman who had been arrested in connection with a bizarre series of incidents where she and her husband Richard Barron (AKA "Robin Boston Barron") had committed a series of sex crimes using their alleged investigations into alleged paranormal phenomena such as ghost sightings to make contact with potential victims including underage teen girls.¹⁷ Ziegler

¹⁵ Again, I have taken the liberty of posting images on my blog. See "A UFO Abductee's Self-promotional Materials: Richard Price's Publicity Kit from the 1990s," *PeterHuston --A blog about my life, writings and whatever strikes my fancy* (blog), October 9, 2021, at <https://peterhuston.blogspot.com/2021/10/a-ufo-abductees-self-promotional.html>

¹⁶ Again, I have taken the liberty of posting images of the three copies of his newsletter that I own online. See "A UFO Abductee's Newsletter: Richard Price's Newsletter, Vol. V, No. 1," January to March 1995 at <https://peterhuston.blogspot.com/2021/10/a-ufo-abductees-newsletter-richard.html>

¹⁷ "Couple Charged With Committing Bizarre Sex Acts With Young Girls," AP, March 2, 1994 at <https://apnews.com/article/2e05718b85ac91c72f78d5390a8f75e5>

describes a trip taken with Price to an allegedly mysterious site in Duddleytown, Connecticut where Price was cured of his bad hip, asthma, and poor eyesight. In an afternote, Price commented that he had gone back to wearing glasses sometimes.¹⁸

The third issue has eight pages, two and a half on personal issues. We learn Price was not invited to a family reunion, and we learn details of his second divorce including physical attacks by his ex-wife motivated by irrational jealousy. This included not letting him watch other women on TV or listen to CDs sung by women as he might fall in love with them and leave her, and, in a different article, he discusses the importance of the issue of battered men in domestic violence situations. Price wrote, “Marianne and I had a near perfect marriage, but she had a problem with extreme jealousy. During our relationship, she would not let me look at a newspaper or magazine unless she cut out the pictures of women that she did not want me to see. I could not watch TV. If a woman appeared on the screen, she would shut it off, then proceed to pound on me with her fist or whatever she had in hand.”¹⁹ From the same source we learn that Marianne, his ex-wife who had committed suicide, was also an abductee and included in an unspecified Budd Hopkins’s book under the name Andrea. She was one of the first women who was impregnated by aliens and had the fetus removed during a second abduction, although Price states that she had admitted to him that she had invented the story of being impregnated by aliens to conceal the fact that she had been a victim of incest who had become pregnant and had an abortion.²⁰ Based on my reading, despite this, I don’t think Price questioned whether or not she had been abducted by aliens, just whether the pregnancy was the result of alien abduction or tragic incest. Price also shares that the same woman took all of his Country and Western CDs that featured female singers from him one day and hid them under the rug. “She told me she was afraid I would fall in love with them and leave her.”²¹ They had been introduced to each other by a UFO investigator.

There’s also a two-page article by his friend, our member, on various aspects of the UFO abduction phenomena, along with a short article describing his further attempts to refute Pritchard’s claims and what he considers inaccurate reporting in interviews with Pritchard. The remainder of the newsletter discusses his plans for a conference and a self-published book.²² As far as I could learn, the book was never published.

Aside from the newsletters, Price claimed as evidence that he had purchased a policy for UFO abduction insurance and that the insurance company had accepted his claim and was paying him. Although the policy clearly stated if an alien abduction occurred, the policy holder would receive a million dollars, the slightly smaller print explained that the policy holder would receive their million dollars at the rate of one dollar a year. Therefore, they were paying him a dollar year.

¹⁸ Richard Price, “A UFO Abductee’s Newsletter: Richard Price’s Newsletter, Vol. V, No. 2, April to October, 1995”, pp. 1-2 at https://peterhuston.blogspot.com/2021/10/a-ufo-abductees-newsletter-richard_9.html

¹⁹ Richard Price, “Revelations from Second Marriage,” *The Jupiter II File*, Vol. VI, No. 1, October to December 1996, p. 3. Images of this newsletter and this article are available at <https://peterhuston.blogspot.com/2021/10/a-ufo-abductees-newsletter-richard.html>

²⁰ *ibid*

²¹ *ibid*

²² Richard Price, *The Jupiter II File*, Vol. VI, No. 1, October to December 1996 at <https://peterhuston.blogspot.com/2021/10/a-ufo-abductees-newsletter-richard.html>

Nevertheless, the acceptance of this claim is the first item on his list of important events on his list of speaking engagements.²³

He admitted to a mental health history. In fact, he made it very clear that as a teen, when he began speaking of his abduction by aliens, he had been put in a mental institution for several years and not let free, until he denied it had ever happened and stated that he understood that the alien abduction had never happened. “I had to lie my way out,” he said more than once. His primary job, if I remember correctly, was driving a taxi.

We began turning these speaking offers down on a regular basis. It wasn’t that we disliked the man, he was pleasant enough despite obvious eccentricities and never caused any problems. However, our group had never had a “pro-paranormal speaker.” It just wasn’t what our group was for, and there were many other forums that welcomed talks by such people. Second, none in our group found him believable or his report convincing. One officer pointed out that if we were to choose an obviously unconvincing pro-UFO speaker as our first “pro-paranormal” speaker, we could be accused of having chosen one in bad faith, and using a “ringer,” a bad example of a pro-paranormal or pro-UFO speaker instead of a more credible one.

Others said they would stay home if he spoke. Some just simply weren’t interested in hearing him speak for an hour, and one older woman said she had no desire to hear Richard Price tell us a story that involved his penis.

And the reports we had received from people who had attended Richard Price’s talks were not terribly flattering. A friend, a fiction writer, had attended one while doing research on UFO abduction claims for a fiction project, and, honestly, laughed a lot when describing it. Reportedly, at one point Price had told the audience, which was less than a dozen people, a surprising number of them journalists or writers like himself:

Actually, I do have hard, scientific evidence that aliens are visiting this planet. The problem is that my ex-wife won’t let me go into the house and get it.

Ultimately, our president approached Price’s friend and said we simply weren’t interested in having him as a speaker and did not expect to change our minds. When asked for clarification, he said “Quite frankly, we believe your friend is mentally ill.”

“Well, of course,” replied Price’s UFO believing friend. “He was abducted by a UFO. That’s very traumatic.” In other words, their belief was that he was mentally ill BECAUSE he’d been abducted by space aliens, instead of claiming to be abducted by space aliens because he was mentally ill.

Regardless, our group turned down a chance to have a talk to our group by a UFO abductee who had received international media coverage simply because we did not find him convincing, nor did we think it would be a humane thing to debate him about his beliefs.

²³ See Footnote #15.

I admit I did write a bit about him and his case in the same article that prompted me to seek out Betty Hill. Honestly, when I did, although he was eager to speak to me, I felt like I was taking advantage of him. He was staying in a welfare hotel at the time, and we met for coffee elsewhere. I remember on the way home we picked up a few groceries for him, including a loaf of bread, and I paid for them as he was between homes at the time.

In conclusion, the way some media reports presented Price and the way he seemed in person contrasted starkly. Sadly, we did not consider him a reliable reporter of his own experiences.²⁴

Queen's UFO Conference

In the year 2000, I was contacted by a film maker working on a documentary on UFO claims for the Discovery Channel. As part of this project, they invited me to attend the Year 2000 UFO Abduction Conference at the New York Hall of Science in Queens, New York City, providing me with lodging and a ticket. The conference was sponsored the Intruders Foundation, Budd Hopkins's organization. Hopkins, an accomplished sculptor and painter of abstract art, had also become an extremely prominent ufologist and a strong proponent of abduction claims. Aside from Hopkins, presenters at the conference included John Mack, Nick Pope, and Bruce Maccabee, four of the biggest names in ufology of the time.²⁵

Despite this lineup, the event was attended by a mere approximately 200 people.²⁶ A large segment of the attendees were self-identified alien abductees. Most others had read and studied books and materials on UFO abductions. There were few skeptics or even people on the fence.

Materials were available for purchase, and I purchased a book and two VHS tapes. One VHS tape was a presentation by Budd Hopkins, "Hidden Memories -Are You a UFO Abductee?"²⁷ This tape reinforces Hopkin's list of signs and symptoms that indicate a possible alien abduction in a person or their children and the need to use hypnosis to uncover hidden memories. The second tape, "Omega Communications Presents The UFO Experience," is a lecture by Roger Leir, a podiatric surgeon (often identified as a "surgeon") and firm advocate that not only were alien abductions taking place but aliens were leaving implants in people.²⁸ Leir had made a name for himself using scalpels and surgery to remove objects imbedded in people's feet, objects that he was convinced were implants and proof of alien visitation and abductions. The strength of

²⁴ Multiple efforts were made to contact Richard Price or discover his whereabouts prior to writing this piece. Sometime around 2002 or so, he moved out of New York state, and no one I know has heard from him since. Attempts to contact him through local skeptic, astronomy, and New Age circles led to nothing. Reaching out to MUFON, the Committee for Skeptical Inquiry (formerly CSICOP), and even David Pritchard produced polite responses indicating that they had no idea where he was. Requests for leads on several social media sites achieved nothing. Attempts to phone his former manager and friend from the astronomy group went unanswered. If he were 8 years old at the time of the alleged abduction in 1955, then he is or would be 77 at the time of this writing.

²⁵ Intruder's Foundation website, Events, May 10, 2000. Retrieved from https://web.archive.org/web/20000607031647/http://www.intrudersfoundation.org/abduction_conference.html

²⁶ Merle English. "QUEENS DIARY / Close Encounters in Flushing / People who say they have seen UFOs get down to earth during a conference at Hall of Science," *Newsday*. May 27, 2000.

²⁷ *Hidden Memories, Are you a UFO abductee?* Lecture by Budd Hopkins, with an introduction by David Jacobs. (Los Angeles, CA: Lightworks Audio & Video, 1993) VHS Tape.

²⁸ *Omega Communications presents The UFO Experience, Dr Roger Leir, The Aliens and the Scalpel: Breakthrough Research on Alien Implants*. Lecture by Roger Leir. (Central Park Media Corporation, 1997).

this evidence and how seriously it stood up to examination, can be judged by how little remembered these surgical interventions are today.

A woman named Beth Collings, a self-identified UFO abductee who was hypnotized by Hopkins in 1992,²⁹ was selling copies of a book she had co-authored with another self-identified UFO abductee, Anna Jamerson (both pseudonyms). The book blurb stated:

*This is a gripping tale of two women and their search for the truth. Experience their interwoven tale of missing time, bizarre nightmares, unexplained pregnancies, and flashbacks of large-eyed beings from another world-all pointing to the impossible... alien abductions. Share their battle to end the abductions, their struggle to understand, and finally their acceptance and empowerment that can only come from a strength inside. Both discovered evidence for alien abductions that may have been going on in each of their families for generations and is still going on today!*³⁰

For better or worse, claiming such experiences, probably put her among the majority of people in the hall that day. She most certainly was not alone in claiming them.

I bought one. She signed it “To Peter, thanks for all your help in solving this mystery.” No comment.

Hopkins’s work, particularly his heavy reliance on hypnosis when questioning suspected abductees and the way it seems too often lead to uncovering exactly the narrative he had hoped to uncover, had been heavily criticized. These critics included Carl Sagan, Robert Baker, Michael Persinger, Elizabeth Loftus, Richard Ofshe, and others.³¹ Among the common criticisms is the way in which hypnosis and obvious or even subtle leading questioning as well as the emotional expectations and hopes of the hypnotist or investigator can cause the suspected abductee to answer their questions in a way that will please the people asking the questions. In other words, hypnotized people tend to answer questions in a way that pleases the hypnotist, often going so far as to invent stories without knowing it. These are often seized upon as truth, especially when the hypnotist desperately wishes to believe the story, a situation that is common with UFO abduction investigators, among others.³²

Aside from misuse of hypnosis, two other factors that lead to false beliefs that one has been abducted by space aliens are misunderstanding of common sleep problems and the intense role

²⁹ Anonymous. “Alien Advent Abduction Calendar Day 5: No Sweets,” *Uqbar Calling* (blog), December 5, 2012, <https://uqbarcalling.wordpress.com/tag/alien-abduction/page/3/>

³⁰ Beth Collings & Anna Jamerson. 1996. *Connections: Solving Our Alien Abduction Mystery*. (Leland, North Carolina: Wild Flower Press.)

³¹ “Kidnapped by UFOs? -PBS Airdate: April 1, 1997,” *Nova*, <https://www.pbs.org/wgbh/nova/transcripts/2306tufos.html>

This is a transcript of the PBS *Nova* science program that heavily criticized self-identified UFO abduction researchers including Hopkins and others.

³² Richard Ofshe & Ethan Watters. 1994. *Making Monsters -False Memories, Psychotherapy, and Sexual Hysteria*. (New York: Charles Scribner’s Sons.)

Mark Pendergrast. 1996. *Victims of Memory -Sex Abuse Accusations and Shattered Lives*. (Hinseburg, Vermont: Upper Access, Inc.)

Nicholas P. Spanos. 1996. *Multiple Identities and False Memories -A Sociocognitive Perspective*. (Washington DC: American Psychological Associates.)

that group expectations and joining a new community can play in reshaping a person's identity and behaviors.

Sleep paralysis and hypnagogic and hypnopompic hallucinations often occur in healthy people, producing frightening experiences. Many so-called abduction reports begin with a person waking, gripped by fear, and being unable to move with a sense of some presence that they cannot see in the room. Having suffered them myself at one time, and written of the experience,³³ I was stunned when I learned that Hopkins, after years of working with self-identified abductees, seemingly dismissed these experiences as a factor in his investigations.

On the PBS Nova program, he stated, "One of the issues about, of course, hypnagogic states and these other theories is that they're usually not accompanied by an enormous amount of emotion. The issue about these abduction experiences is, of course, immediately the enormous powerful and appropriate emotions that go with the experiences as they're recalled."³⁴

Please put me on record as stating Hopkins was completely wrong about this, absolutely and disturbingly wrong. Hopkins's talk, like many at the conference, began with a simultaneous attack on the people, scientists, medical professionals, politicians, and others who were ignoring his claims, and the skeptics who while they had looked into his claims, had then rejected them instead of believing.

Soon, it segued into Hopkins's current enthusiasm, the topic he felt was the cutting edge of alien abduction research. While still having failed to uncover evidence to convince the scientific community or even government policy makers that UFOs were spacecraft or that humans were being abducted by otherworldly beings, he had moved on to a different idea, and now claimed that if one member of a family were being abducted, whether they were aware of it or not, it was very possible that their children might be being abducted as well.

According to Hopkins, common signs that a young child might have been or currently be undergoing a series of abductions were basically that they woke up and said there were monsters in the room or that they were scared or had nightmares. There were others he mentioned, such as blood found on their pillow or bed sheets or mysterious scars or marks on their body, but the big one was fear of monsters at night, especially if a child says the monsters are either present or were present. Obviously, to hear someone say this, and a large roomful of adults believe it and take it quite seriously, was very disturbing as even the most healthy children have been known to do this from time to time. For that matter, even the more dramatic signs mentioned, such as mysterious blood on the pillow or bedsheets could have mundane explanations such as children picking their nose or scratching scabs, both actions that children sometimes deny having done if their parents have told them not to do them.

Hopkins's advice for parents whose children show such signs was "If this happens to your children, use their language. The child needs to know you're on their side." In other words, he

³³ Peter Huston. "Night Terrors. Sleep Paralysis, and Devil-Stricken Telephone Cords from Hell," *Skeptical Inquirer*, Volume 17, No. 1, Fall 1992 at

<https://skepticalinquirer.org/1992/10/night-terrors-sleep-paralysis-and-devil-stricken-telephone-cords-from-hell/>

³⁴ "Kidnapped by UFOS?" PBS *Nova* transcript, p. 28

clarified, agree with them about the reality of the monsters in the room. Don't tell them it's a dream if they think it really happened.

Additionally, if the child should ask if this will stop and the monsters will come back, Hopkins advised parents to tell their children that the big problem, of course, is that you can't make it stop. The aliens might come back, and there's nothing anyone can do to stop them. Therefore, be honest. There's no reason to try and assure the child that it won't happen again, but reassure the child that everything is fine now, but without making a claim that the aliens won't come back.

If the child wants to talk about it, a parent can encourage them to draw pictures about what they saw or believed to be present.

Hopkins explained that one tool he and his investigators use is an "Image Recognition Test." This consisted of a series of pictures of characters that children were likely to recognize such as Santa Claus, Batman, a Teenage Mutant Ninja Turtle, and, of course, classic Grey-style space aliens of the type who allegedly abduct people. Hopkins explained "I go to the home, and I play with the child, just games, so that they do not think this is some kind of big scary test." He shows them the pictures and asks: "Have you ever dreamed of any of these things?" Then later, while showing the children the pictures, he asks the children to "Make up a story, silly story, funny story, what happens when he comes into your room. What happens?"

Hopkins concluded "The amounts of information this test can elicit are quite interesting."³⁵ The big problem with this is that children are highly imaginative, suggestible, and easily invent stories when prompted, stories that adults have often misinterpreted as the truth, particularly when they are seeking important information to determine whether terrible things may have occurred. In other words, if small children sense what the questioner wants and expects to hear, especially if they think they are playing a game, it has been documented that they will often tell that person what they think that person wants to hear.³⁶

As for those without children, Hopkins said "For those of you who do not have children, at least you may recognize some of your childhood experiences in these accounts." In other words, if you have vague memories of sensing monsters in the dark or having nightmares as a child (and who doesn't?), Hopkins felt a wise course of action would be to seek out someone like himself and have yourself hypnotized to see what could be elicited.

³⁵ In some cases, the exact quotes used come from Hopkins VHS tape and may not be the exact words used at the Intruders Conference lecture.

³⁶ Paul Eberle & Shirley Eberle. 1993. *The Abuse of Innocence -The McMartin Preschool Trial*. (Buffalo, New York: Prometheus Books)
Debbie Nathan & Michael Snedeker. 1995. *Satan's Silence, Ritual Abuse and the Making of a Modern American Witch Hunt* (New York: Basic Books)
Richard Wexler. 1990, 1995. *Wounded Innocents, The Real Victims in the War Against Child Abuse* (Buffalo New York: Prometheus Books)

The implications of spreading the notion among believers in UFO abduction, that their children might be abductees too, is disturbing. In fact, it is not uncommon for unusual, unorthodox, or even delusional ideas to be shared among members of the same family or residence.³⁷

One of the few attendees I met who was trying to sort out the issue told me that he was working through some personal issues. He told me he had been adopted, and there were apparently issues with some other family members about whether or not he should be considered part of the extended family or not. A funeral of a loved one, a family member, had recently happened, and some members of the family had made a decision not to invite him, upsetting him greatly. This incident, and others, left him feeling insecure and hurt. He'd begun wondering why he often felt bad and had traumas he didn't quite understand, and thought a forgotten alien abduction could be one source of such trauma. So, he'd come to the event to decide for himself it was worth exploring the option that he could be an alien abductee with no conscious memory of the event.

We spoke in the stands while waiting for a speaker to begin. A nearby person overheard us speaking and turned around encouraging him to explore the possibility that he, too, had been an alien abductee.

The talk began on signs that one might be an abductee, and when the comments and question period began, the man I'd been speaking to spoke up, giving his opinion that if one were adopted, it would probably best to give serious thought to the idea that emotional and personal problems are more likely to stem from being adopted, then from a hidden alien abduction experience.

In return, he got a lot of dirty looks and ugly mumbled comments. Those who attended, as the saying went, wanted to believe, and no one could stop them, it seemed.

In conclusion, what I saw at the conference, not only failed to convince me that UFO abductions were real or even "an extraordinary phenomenon" as Budd Hopkins often used to say when he would say "An extraordinary phenomenon demands an extraordinary investigation." In fact, everything I saw was perfectly explainable using standard, readily accepted, non-controversial psychological and physiological explanations. Most important among these are the way sleep paralysis and hypnopompic and hypnagogic states work, the way hypnosis and social priming and the hypnotist's expectations can distort memory, and the way groups and group dynamics can help form, shape, and maintain unorthodox belief systems among group members.

The sad truth is that I found my two days at the Intruders Foundation Conference a depressing and disturbing experience.³⁸

Conclusion

In conclusion, it's been twenty years at least since the events, encounters, and meetings described. While I have not followed the UFO abduction scene carefully, I have touched in from

³⁷ Marc Galanter. 1989, 1999. *Cults -Faith, Healing, and Coercion*. (New York, Oxford: Oxford University Press.) p. 16.

³⁸ I could find no evidence that Budd Hopkins's Intruder Foundation continues to exist, their website is gone and their domain is for sale. There is a site, <http://www.buddhopkins.net/>, maintained by his daughter Grace Hopkins, that discusses his career as an artist with no mention of his ufology.

time to time. I find it safe to say that not only have the repeated claims of abductions by extraterrestrial beings failed to capture the interest of mainstream science or become a topic of government policy at any level, but interest in the alleged phenomenon among the general public and media has diminished considerably rather than grown.

In terms of hard evidence that such alien abductions are happening, there's simply none to be had, at least none that comes without more questions than answers. As I discuss in my book "More Scams from the Great Beyond," while people like David Jacobs argue that the alleged abductions indicate our planet is essentially being invaded and our species is in danger, if this is the case it is the cleanest military operation of all time. Don't the invaders leave any garbage behind in the manner that all other military forces ever do? ³⁹

The claims of implants, even after multiple surgical efforts to find them, have, after 20 years, provided nothing and are largely forgotten.

Most of the leading UFO researchers of slightly more than two decades ago have died off. This would mean little if the foundations and research organizations they had created lived on and a new generation had taken their place, but generally speaking, this isn't the case.

While some who claim to be abducted or contacted by space aliens are consciously lying or mentally ill, I think they are in the minority. The majority, I feel, are or were people who do not have a diagnosable mental illness and are basically honest but who have or had a general sense of unease, depression, or anxiety, and an interest in UFOs, alien visitation, and the claims that aliens were abducting people. This interest might hint at the likelihood of certain personality traits and types among self-identified alien abductees, but attempts to confirm this should be done carefully and scientifically and I lack the resources and expertise to do so.

The repeated descriptions of an alien abduction and its various elements can easily be explained through a combination of misinterpretation of phenomena such as sleep paralysis and related hallucinations,⁴⁰ social priming (few, I hope, would deny that the overwhelming majority of people who wonder if they are a UFO abductee and seek out UFO abduction researchers to determine if they were abducted by UFOs have become interested and at least open minded towards the possibility that UFO abductions being real), distortion of memory through hypnosis,⁴¹ and the claimant entering a meta-community where such beliefs are not just accepted but reinforced.⁴²

In my opinion, the belief in alien abductions is a social problem, and an obscure one at that. The self-identified abductees that I have met did not appear to be reliable witnesses.

³⁹ Peter Huston. 2002. *More Scams from the Great Beyond*.

⁴⁰ See Footnote #33.

⁴¹ Richard Ofshe & Ethan Watters. 1994. *Making Monsters*.

Mark Pendergrast. 1996. *Victims of Memory*.

Nicholas P. Spanos. 1996. *Multiple Identities and False Memories*.

⁴² Marc Galanter. 1989, 1999. *Cults -Faith, Healing, and Coercion*.

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Investigating Ball Lightning Eyewitness Reports

Alexander G. Keul

Abstract: Ball lightning (BL) and UFOs as unsolved phenomena appear side-by-side in many news articles and popular books. The term BL has been used since Arago 1837 for unexplained metastable lightning forms that appear at random in time and space and last for seconds. For both classes of transient phenomena, most of the incoming material is anecdotal, thus serious investigation needs to consider and evaluate social as well as natural science data. However, BL theories still outnumber critical field investigations. The author—meteorologist and psychologist, involved in BL studies since 1974—explains his examination of witness reports and related evidence, highlights BL case statistics, and delineates obstacles and chances for a potential scientific solution.

Keywords: Ball lightning, Field investigation, Social science data, Case statistics, Epistemology

Introduction

“Guarda! Guarda!” (Look! Look!)—Calls from the Corsa dei Servi (today Corso Vittorio Emanuele II) in central Milan, Italy, alarmed Mr. Butti, naval painter to the Empress of Austria. It was six o’clock in the evening in June 1841, and a heavy thunderstorm was in progress. Outside Butti’s room, people followed a reddish-yellow ball of fire in the rain. It floated at second-floor window level, rose higher, and exploded with a thud at a nearby church tower cross. The artist wrote a report to physicist Arago. In 1923, this report was quoted by Walther Brand in his monograph “Der Kugelblitz,” the only one in German to date. François Arago (1837) first used the term ball lightning for an unexplained group of metastable luminous phenomena of atmospheric electricity. Ball lightning (BL) makes its random appearance in time and space, lasts for seconds, and ends with or without traces.

BL cases cause epistemological problems. After hundreds of years of BL case histories and 184 years of scientific interest, most of the material on record is still anecdotal. US lightning researchers Vladimir Rakov and Martin Uman, in their handbook “Lightning” (2003, p. 656), write: “The existence of BL seems beyond doubt after thousands of similar reports, but hard scientific evidence in the form of photos, films or residue, a consensual theory or empirically convincing laboratory simulation is largely missing.” This sounds unbelievable in our “science age” - we explore the most distant quasars with space telescopes, but a phenomenon that appears within reach during thunderstorms should slip through the mesh of natural science? As spontaneous, erratic phenomena, most BL events are witnessed by chance by non-scientists. When alleged BL cases are reported by the media, it often remains unclear whether such an object was actually seen or whether it was just being fantasized about. This means that the BL case also has a sociopsychological level dealing with witness reports, lay theories, and mental models.

The author encountered the BL debate while studying meteorology in Vienna 1974-1978. He found BL reporting instructions in the official observer guide of the Austrian weather service, amused comments at the university, and emotional stories in the public. Getting interested, he wanted to take a closer look and examine the data. This led to 47 years of case collection,

interviewing and field investigation with interdisciplinary contacts. First results were published in 1981, a preliminary BL case statistics (with Stummer) in 2002.

History, Definitions, Theories, Laboratory

BL belongs to the field of thunderstorms and lightning. Meteorologically speaking, thunderclouds are formed by the upward motion of moist air, whereby condensation and freezing of the water particles lead to charge separation and to electrical phenomena. A distinction is made between cloud-cloud flashes in the sky, cloud-ground flashes down to the ground, and ground-cloud flashes from towers or mountains upwards. Lightning is an ultrafast process made up of individual rapid discharges. In a cloud-to-earth lightning flash, a “stepped leader” starts in the cloud, growing rapidly downwards, where so-called “streamers” reach up towards it. One of them merges with the leader into the main discharge. Most cloud-ground flashes have multiple partial discharges (strokes), which explains the observed flickering of the lightning bolts. The discharge processes happen in the microsecond (10^{-6}) to millisecond (10^{-3}) range, too fast for the human eye to resolve. Lightning research is carried out in Austria by ALDIS, the lightning detection and information network of OVE (Association for Electrical Engineering) and Verbund (Austria’s power company). Although lightning has been identified as an electric spark discharge since Benjamin Franklin in 1752, it is far more complicated than the spark of an electrifying machine: There are different discharges, positive and negative or with polarity change, and of various energy content.

BL as a rare phenomenon has names in many languages (Keul 2005): in Italy *fulmine globulari*, in France *foudre* (or *éclair*) *en boule*, in Spain *rayo en bola*, in Denmark *kuglelyn*, in Holland *ball bliksem*, in Germany *Kugelblitz*, in Sweden *klotblix*, in Finland *pallosalama*, in Iceland *urðarmáni*, in England *ball lightning*, in Estonia *keravälv*, in the Czech Republic *kulový blesk*, in Hungary *gömbvillám*, in Russia *sharovaya molniya*, in Malaysia *bola petir* and in Japan *hinotama*. In Austria’s folklore legends, there are definite BL references (Keul 1993): Be it the rolling “Klage” of the Leitha Mountains, a ball of fate, “Vizotum” (as much as the devil himself) in the Bregenzer Woods, which rips careless people apart when rolling down the mountain, or the Carinthian “Skopniak,” a glowing ball that scorches the beards of wicked people. Although the early BL stories always give religious interpretations, currently no such references remain, so observers do not wonder what BL means for them or what it is that wants to tell them something. Unlike the field of UFOs, BL reports offer a subjectively impressive, but time-invariant repetition of similar phenomena typical for a natural origin.

Historical BL reports date back to 1557 and 1638, i.e., over 450 years (Doe 2013). Scientific BL investigations started with “Sur le tonnerre” by French physicist François Arago (1837). The astrophysicist (and BL observer) Axel Wittmann, from the University of Göttingen, listed BL phenomenology in 1976 as follows:

Appearance in thunderstorms, often near cloud-ground lightning, round shape less than one meter, color mainly orange to red, opaque and self-luminous, continuous or irregular movement, sometimes motionless, frequent penetration into buildings, lifespan seldom over several seconds, with noise or noiseless, also in the final phase, mostly without traces, i.e., damage and injuries.

In addition to its appearance in buildings, numerous observations in and around aircraft at cruising altitude pose questions open to research (Doe & Keul 2009, Doe et al. 2009). BL publications—

already 1,600 listed in Barry's bibliography (1980), 2,400 in Stenhoff's collection (1999)—still have uncertain theoretical foundations, which is why the numerous case studies, hypotheses and laboratory simulations from different research groups remain unconnected. Turner (2002) called this a “fragmented science” and demanded more integration and convergent operations. However, at all congresses of the International Committee on Ball Lightning (ICBL) since 1988, there have been long sessions with ever newer theories and models and only a few field studies and case reports. Stanley Singer therefore criticized (2002, p. 6): “Only a small number of observations have been examined to determine the reliability of the eyewitnesses and to evaluate the report.” In any case, the establishment of the ICBL was a step forward in 1988, and the board members try to coordinate field findings at biennial conferences. A technical communication of COST P18, signed by 30 leading European lightning experts (Thottapillil 2005), cites BL as an open research topic.

In their lightning manual, Rakov and Uman divide BL theories into 16 categories (2003, p. 664):

- A. *Models with an internal energy source: 1. Heated air with impurities, 2. Dust, droplets, aerosols, 3. Chemical reactions, combustion, 4. High density plasma, 5. Closed current flow loop, 6. Air vortex with glowing gas, 7. EM field in a thin plasma envelope, 8. Nuclear reactions, antimatter, 9. Smallest black holes, 10. Charge separation, 11. Maser theory with water vapor.*
- B. *Models with an external energy source: 1. Focused atmospheric high frequency fields, 2. Steady, locally focused current flow, 3. Focused cosmic radiation, 4. Antimatter meteors, 5. Electric fields on the ground after lightning discharge.*

In addition to these 16 categories, there are also “illusion”/“hallucination” models that try to explain BL a) as a glare/dazzle lightning afterimage on the retina or b) as a neurological lightning artifact, an EM hallucination. However, this skeptical approach is unable to explain away the entire spectrum of cases, and above all the photo and video material (Keul et al. 2008).

BL laboratory research, which aims to simulate the phenomenon, developed in a similarly idiosyncratic manner. Experiments considered silicon nano molecules at the points of lightning strike (Abrahamson & Dinniss 2000), plasma clouds triggered by a high-voltage pulse over water (Egorov et al. 2004, Versteegh et al. 2008), flammable substances in plasma (Emelin et al. 1997, Dikhtyar & Jerby 2006), arc discharges on silicon wafers (Piva et al. 2007) etc. Bychkov et al. (2010) give a complete historical overview of theories and experiments.

Not laboratory simulation, but an innovative field experiment was carried out by the Uman research group (Hill et al. 2010). At the Camp Blanding military base in Florida, lightning has long been triggered by launching rockets with a metal wire during thunderstorms. In the same way, lightning bolts were triggered in 2008 and passed over about 100 different substances on the ground, including salt water, silicon wafers, stainless steel, and conifer branches. The resulting luminous phenomena were photographed and analyzed. There was a flame over salt water for half a second, luminous silicon fragments fell down for a second, a flashover at the steel surface formed a ball of light 33 cm in diameter and the discharge in the conifer branches was visible for half a second. Uman and colleagues did not call this BL, but pointed out the effects of various materials when exposed to lightning. Stephan and Massey (2008) added that some BL events could be explained by molten spheres when lightning strikes evaporate metal objects.

Another problem is the following: The term BL stands for spherical objects, but does not automatically justify one homogeneous, self-contained phenomenon. The sun and the moon appear round in the sky and at almost the same angular size without being physically the same. Every blinding short-circuit arc after a lightning strike appears to the observer as a sphere, but is by no means spherical, but only an over-exposure image due to irradiation. Rakov and Uman (2003, p. 656) are therefore right with their cautious remark “that there can be more than one type of BL and therefore more than one mechanism by which BL arises.”

Psychology and Ball Lightning: Mental Models, Lay Theories, Experiment

The majority of ball lightning reports are only verbal. Social science techniques can be used to interpret them and to assess the testimony of witnesses (Keul 1993). Forensic psychologists have already done numerous field studies with eyewitnesses, but not in the contexts, situations, and latencies typical for BL events. Nevertheless, there are interesting results from this research field: Special details of a sequence of actions are better remembered (Marshall et al. 1971). Central details of a scene are clearly remembered, even if they caused fear (Kebeck & Lohaus 1986). People tend to overestimate the duration of fearful and stressful events (Sarason & Stoops 1978). Observed details can be distorted by suggestive questioning, and also by personal and cultural stereotypes (Carmichael et al. 1932). Emotionally disturbing sudden events are often stored and recalled together with irrelevant details of the event situation (“flashbulb memory”; Brown & Kulik 1977). Incorrectly remembered details are furthermore remembered this way (“freezing effect”; Kay 1955).

Cognitive psychology speaks of “mental models” as internal symbols or representations of external reality, essential for perception and interpretation (Craik 1943). For Gentner and Stevens (1983), a mental model is based on non-qualifiable, obscure, and incomplete information (Gentner & Stevens 1983)—this is what happens when a round hole in a wall becomes a compelling “proof” of BL after a thunderstorm. Recently, mental models have been used in ecosystem research as an interdisciplinary synthesis of theory and methods (Ross et al. 2001). Another term is used in social and clinical research: “lay theories” are informal, common-sense explanations by laypeople of certain phenomena, usually completely detached from scientific explanations (Furnham 1988). The BL case investigator must be aware of the phenomenon of false BL reports. They are produced by a common mental model or lay theory that goes like this: “Extraordinary events in a thunderstorm, such as strange or unexpectedly large damage and other unexplained things, are caused by the extremely dangerous BL.” So, if an “evil” cloud-ground lightning bolt damages a church or destroys an entire warehouse, BL comes under suspicion—even in the eyes of rural police or insurance agents. Upset victims and media people are happy to accept the BL label because it reduces uncertainty. For the author, despite all emotionally charged evidence, this is by no means BL, but a false alarm. In short, BL investigations cannot be an inductivistic, theory-free game, but implicitly or explicitly follow a research paradigm (Kuhn 1962): It determines what is observed and how, which questions may be asked, how results should be interpreted, how experiments have to be carried out.

Whereas the interest of social scientists in UFOs (or rather, in the UFO observer) has already been considerable, psychological studies about lightning and BL are still rare. Together with students, the author accomplished a 51-item survey on lightning knowledge, risk awareness, folk beliefs, life-saving cognitions, and behavior (N=133, age 20-84, Upper Austria and Salzburg; Keul et al.

2009). With another student group (Keul et al. 2015), a simple BL perception experiment was arranged in May 2014 in an empty seminar room of Salzburg University (see Fig. 1): In daylight, a non-luminous white Styrofoam globe (2 diameters: 15 or 20 cm) was hung from a nylon thread at eye level 3 meters from the subjects (97% students, 30 male, 30 female, 16-62 years, mean 23, 50% were shown the 15-, 50% the 20-cm object). Subjects saw this object when entering the room and, after 4 seconds, had to turn around and reconstruct the object size with both hands. After that, they were asked about the object size in cm. The same task was repeated to indicate the size of a soccer ball from memory (physically and verbally). The results: Shown with the hands, the 15-cm object gave a mean size estimate of 15.3 cm, the 20 cm object of 21.7 cm. The verbal mean estimate was 17.5 cm for the 15-cm globe and 19.9 cm for the 20-cm object. All estimate deviations were not statistically significant. However, the soccer ball (22 cm for adults), recalled from memory, had 28.3-28.8 cm physically and 29.7-25.4 cm verbally, which are statistically significant overestimations. We conclude that educated observers under favorable conditions, low stress and short recall time can produce fairly accurate size estimates. The results will probably be different for low education, long recall times and unfavorable conditions, but the harsh judgement of some experts (usually untrained in experimental psychology) that eyewitness estimations are “good for nothing” should be treated with caution. A replication of the Salzburg BL experiment with different borderline conditions (no bright daylight, luminous object, various recall times/stress) and a general population sample would be a good idea.



Figure 1. The Salzburg BL size experiment.

BL events and non-events

A German BL non-event example

According to a local newspaper, on June 6, 2011, shortly after 20:00 CEST (Central European Summer Time), a thunderstorm in Strasburg near Uecker-Randow, Mecklenburg-Western Pomerania, Germany, caused a major fire on the roof of a local prefabricated housing estate. A journalist for *NordKurier* wrote (Marten 2011): “... a football-sized fireball sat down during the thunderstorm on blocks 34 to 37 in Straßburger Siedlungsweg 1, about house entrance 35. The fireball then raced southward over the roof and set all combustible material on fire.” The fire spread quickly over the entire length of the roof structure, which burned out completely despite immediate alarms to all local fire departments. A photovoltaic system had been installed over the full length

of the roof in the previous autumn—it was destroyed in the fire. On the evening in question, a low pressure system over the British Isles created two cold fronts with widespread thunderstorms before 16:00 CEST. Gerhard Diendorfer, head of ALDIS (the Austrian lightning surveillance), looked through his German records and found a series of four negative cloud-to-earth lightning strikes between 4,000 and 21,000 amperes scattered over 1 km in the fire area. It seems likely that a negative cloud-to-ground lightning stroke caused a short circuit in the photovoltaic system, which then set fire to the entire length of the roof. The short-circuit arcs then appeared to observers as a moving ball of fire.

An Austrian BL event example

On July 29, 2020, BL was reported to ZAMG Zentralanstalt fuer Meteorologie Vienna. A day later, the author interviewed the reporting witness, Reinhard Wilhelm, 49 years, executive director of a technical company with a MSc in management (Keul 2021). ALDIS lightning data were checked by Gerhard Diendorfer and Rainer Kaltenberger, and as the COVID pandemic prevented a field investigation, the witness sent a photo reconstruction plus measurements of azimuth, elevation, size, and object angle.

After heavy thunderstorms over Vienna on July 28, 2020, Mr. Wilhelm and his wife went out into the garden of their home in Vienna's 22nd district (Neu Essling) between 22:05 and 22:15 CEST. Thunderstorms were still in progress, but no rain fell. Looking eastwards, both saw something striking—Mr. Wilhelm first in the corner of his eye, his wife directly: Moving upwards, the light seemed to contract into a white sphere which illuminated the clouds, circled shortly, stopped, then quickly flew up at an angle into the cloud layer and disappeared. The duration was about 2 seconds, probably longer. The light was white, steady. The object had 0.1 degrees size (witness size test estimation), was in the east at 45 degrees elevation (i.e., 2 km direct distance) just below the cloud base, so it was about 3.5 m diameter. Mr. Wilhelm knew BL from the media and sent an email report to the ZAMG meteorologists.

July 28 was the hottest day so far of 2020 in eastern Austria, with 37.2°C at Vienna, followed by a cold front with heavy thunderstorms, hail and flooding. The city's heat island intensified the thunderstorms. At 22:00 CEST, Grossenzersdorf station 4 km east reported 21°C, 80% relative humidity, wind 15 km/h (gusts 35), 2.5 mm rain, Vienna airport station a visibility of 22 km, cloud base at 1,500 m. Of three instability parameters derived from the 18 Z (20 CEST) Vienna radiosonde, only CAPE (convective available potential energy for instability, deep moist convection) was strong with >1000. In the 22:01-22:28 CEST ALDIS record, Vienna lightning activity was still considerable with 108 detections, but not in Neu Essling with only 10 events within a 5 km radius. At 20:16:28 GMT (22:16:28 CEST), a strong positive cloud-ground stroke with +170.4 kA was detected 0.5 km west of the witnesses' location, at their back. A first study of 34 European BL events versus lightning location data 1994-2016 showed a correlation with strong positive CG strokes (Keul & Diendorfer 2018).

BL Field Investigation Scheme

Random reports almost always come from lay people. Lately, the main medium is email for reports from observers who find the author's internet information page. Starting a BL investigation (Keul 2013), the first report must be listened to/read critically and categorized into: a) Errors (misidentification, fraud, other phenomena), b) Inadequate information/second-hand reports

(insufficient details, secondary reports—“my late grandfather once saw...” or c) sufficient details for further examination. In the third case, direct contact with the main observers is mandatory, via telephone, internet, or in writing. In substantial recent cases, a cost-intensive field investigation should be carried out. Without research funding, for economic reasons the researchers’ main energy should concentrate on promising cases—very qualified observers, photos, videos, material traces. The author uses a questionnaire for phone calls, email, or letter contacts and a field investigation scheme as a checklist.

In contrast to pure physical research, there is always an observer who is of psychological and medical interest. For example, if an observer reports subsequent visual disturbances, one should not speculate, but ask about ophthalmological symptoms. In a 2012 BL case, it was evidently photoelectric keratitis. If there are—rarely enough—several observers, separate interviews are necessary in order to document individual perceptions and details. Interviews are given voluntarily, so observers should be treated kindly and not “interrogated.” The best situation for eyewitnesses who are supposed to remember details is to return to the observation site, where appropriate environmental cues are present and can be taken into account. In this way, for example, the observation framework can be clarified: Did the object appear in an open field or within a limited field of vision, was the trajectory only the visible part of a longer one? The observation duration may be reconstructed in the field: “Now imagine, the whole thing is happening again and you tell me ‘now’ when it starts and ‘stop’ when it is over.” The duration is measured with a stopwatch. It can be shorter or longer than first estimated by the observer (compare Sarason & Stoops 1978). The size estimate poses a similar difficulty—apart from possible overexposure (irradiation) against a dark background, to ask for centimeters is pointless, because people in everyday life (perhaps with the exception of some specialists) do not think in centimeters, but use comparative objects as a size reference. “Soccer ball-size” (for adults) is therefore a more common specification than “22 cm.” As with any field research, field sketches and photos with a scale are a matter of course. The anonymity of the observer must be strictly observed (European DSGVO, English GDPR General Data Protection Regulation DSGVO; Daniel 1918), especially in controversial cases. Media contacts have to follow ethical standards, observe the copyright of photos/videos and not be profit-oriented. In the author’s field work, material traces were rare exceptions (e.g., Keul, Gugenbauerm, & Diendorfer 1993). The assistance of qualified experts should always be sought for competent trace examinations.

The Montafon Photograph (Keul 1992, 1996): Photography has the potential to record transient phenomena and allows a laboratory examination of the physical record. Spontaneous photographic material of BL is rare because it is practically impossible to capture a five-second phenomenon after a moment of shock with a camera. Therefore, BL will more often appear on long-term shots and automatic recordings. Vicente-Juan Ballester Olmos (Van Utrecht & Ballester Olmos 2019) holds a catalogue of 140 BL pictures/films 1891-2019. Here is such a case: Werner Burger, eyewitness and photographer of the BL color slide, contacted the author after a local press call-for-reports in 1990. After inspecting a paper copy of the photo (see Fig. 2), the author went to Vorarlberg for a field investigation. Thereafter, copies of the photo plus investigation report were distributed to astronomical, meteorological, and technical experts asking for their opinions. Also, a computer image analysis was performed. On a 1978 summer night (very likely the cold front passage of August 3/4), Mr. Burger noticed an approaching storm front in St. Gallenkirch. The village has 1,400 inhabitants and is located in the Montafon Valley of southern Vorarlberg at about

900 meters, surrounded by mountain massifs of over 2,000 meters. The 1978 place of observation was Aussergant near the Silvretta Pass road. Burger put his mirror reflex camera with tripod and wire trigger on the balcony to photograph lightning. The camera looked towards Mt. Grappeskogel (2,206 m) in the east. It was dark and before midnight. The observer had just started a further time recording and pressed the remote release when he heard a noise, “as of a Christmas sparkler, or a wire brush pulled over an edge,” then ahead, “a fireball fell down.” Burger, a bit shocked, let go of the wire trigger before the object disappeared. A reconstruction on the spot timed two seconds visual observation time and before that, one second of noise. The object seemed to be in free-fall. The lightning and BL long-term photos were made with a *Fujica* AZ1, focal length 55 mm, on Agfa CT-18 diapositive film, 50 ASA. After development, the lightning slides were overexposed, but the BL appeared sharp and with details.

The observer was born 1957 in the Montafon Valley and in 1978 was working for a cable car company. At the time of inquiry, he had government work and, together with his wife, ran a bed-and-breakfast. He had normal visual acuity and was an active athlete. The color slide measures 23x35 mm. It was scanned for photo analysis (see Fig. 2). In the interdisciplinary analysis (Keul 1996), meteor astronomer Zdenek Ceplecha, of Ondřejov, Czech Republic, emphasized the parabolic form of the trajectory, but excluded a bright meteor (it was in front of the clouds!). He estimated it as an object one meter across at a distance of 400 meters. He pointed out that the two longest and brightest sparks followed different paths. Pyrotechnician Claus Feuerstein did not recognize any typical fireworks rocket. The photographed “sparks” were not customary in pyrotechnics, but looked military to him, such as burning gas or a liquid. Josef Scheutz, a second pyrotechnician, thought he recognized a “Scorpio bomb” pyro effect, but the author could not photograph a BL-similar effect with one of his fireworks at Linz, Austria. “Bombs” usually explode after a vertical climb without a luminous track. Colonel Marterbauer, Austrian Army, Salzburg, said that firing artillery ammunition is not allowed in the Montafon Valley, but only on special military exercise grounds. He definitely excluded an artillery shell or grenade in the photo. Lightning protection engineer Alfred Gugenbauer, Linz, Upper Austria, saw an upward lightning flash as possible explanation. His hypothesis, however, fits neither the observation nor the photographic data. Upward lightning would neither be observed nor photographed as a falling object. The head of ALDIS (Austrian Lightning Location and Information System), lightning protection engineer Gerhard Diendorfer, contradicted the upward lightning hypothesis. Photographed cloud-ground or cloud-cloud lightning forms a continuous channel, not a fragment. Lightning researcher Doug G. Jordan, a US colleague of Professor Uman in Florida, examined the photography during a visit to Austria. He noticed “no standard lightning,” wondered why the “sparks” had similar forms, and said the object might be something that falls down burning after a lightning strike. Hannspeter Winter, Plasma Physics professor at the University of Technology Vienna: “Something fell from the sky and burned out... It is definitely not a highly ionized plasma... When the film shows the correct color temperature, this is a rather cold phenomenon, a conventional combustion process of 1,500 to 2,000 degrees Celsius maximum. On the other hand, plasma, like lightning, would be in the blue spectral range.” Lightning protection expert Walter Hattinger, of Salzburg, saw neither conventional lightning nor burning magnesium. Maybe a flammable liquid? Salzburg Fire Brigade training officer Greisberger denied that: “A burning liquid would not be compact, but would quickly dissolve... Burning gas does not burn so bright... This is a solid body that is burning in the core and somehow dissolves.”

Further discussions at the ICBL BL congresses in Los Angeles 1992 and in Salzburg 1993 did not arrive at new insights. In the Montafon Valley, the author made long-term photo exposures of alpine signal missiles fired by Werner Burger as a comparison. Their sparks were rather regular, not similar to the sparks on the BL photograph. Although the absence of any landscape details on the Montafon photograph represents a certain forensic weakness, its rich details are remarkable and should encourage further analyzes by interested experts.



Figure 2. Montafon BL photograph
© Werner Burger, 1978



Figure 3. Zwoenitz BL video composite
© Sabine & Thomas Fuchs, 2003

The Zwoenitz Video Record (Keul 2004a, 2004b, Schrattenecker & Baumegger 2004): BL movies or videos would be most valuable, but there are almost no well-documented ones. A few were discussed by Barry (1980) and Stenhoff (1999). A 1976 video from Transvaal, South Africa, shows a round shape detaching from a cloud-ground lightning channel (Eriksson 1977). An alleged BL video from Ashford, England, 1989, turned out to be an internal reflection of the camcorder (Meaden 1990, Bergstrom & Campbell 1991). On the internet, especially YouTube, many BL videos circulate, but all are of unknown origin without well-documented case details, and some are even deliberate fakes. The worldwide use of digital photography, cam/webcorders, and cellphone cams already makes the chance documentation of BL easier, but they have to pass a scientific validity check.

On April 22, 2003, the author received an email from students Sabine and Thomas Fuchs of Zwönitz, Saxony, Germany: "...We have filmed a phenomenon during a thunderstorm and assume it could be BL." A 332 KB AVI file with an eight-second color video was included (Fig. 3 is a composite of the video film frames). A telephone interview gave more details: The family lives in a former East-German concrete-prefab (Plattenbau) building west of the city center. On the evening of April 19, Thomas fastened his webcam to a chair, with a view through a window to the east, to record possible lightning. The sky was cloudy, no precipitation, thunder. The webcam recording started at 18:44 computer time. Thomas left the room to eat something and stopped the record after four minutes. Later that evening, his sister Sabine detected a moving light source on the webcam record.

The video shows the flat roof of the next prefab building under a dark, cloudy sky. After about four seconds, a yellow-orange, bright light source comes out from behind the roof, moves upwards, jerking along a wavy track with two brightness maxima before it dims after 2 seconds or disappears into clouds. The first impression was like a reflection in a train window. The webcam used was a three-year-old *Mustek* WCAM300 with a 1/3 inch (0.85 cm) color CMOS sensor from RGB24 and 640x480 pixel maximum resolution. Manual focus, fixed aperture 2.0, built-in microphone (set to zero in the video) and 54° field of view. Recording and processing used *VirtualDub* 1.51 with DivX compression, 25 fps. The webcam was connected to a *Toshiba* 200 MHz 64 MB RAM notebook. A *Mustek* frame rate of 15 fps, i.e., 15 frames per second, means for a resolution of 640x480 pixels that 10 images per second are lost due to lack of system capacity, i.e., not stored. This explains the jerky motion, like in an old silent movie. From 18:44 to 18:48 computer time, the system recorded 4 minutes and 3 seconds of video signals. The webcam was about 1 meter away from the closed and clean window, the webcam axis tilted slightly to the left. The family lives on the fifth floor (above ground level). Between the blocks is a green area. The housing estate is located in open hills at 500-700 m above sea level. To the west, behind the next building in the camera direction, is a local railway and a high-voltage line. No airfield or military installation is in close range, no fireworks or festival took place on the day of the recording. The roof nozzles visible in the video are fireplace exhausts. A roof inspection by Thomas Fuchs did not reveal any special features. At the time of their recording, neither teen was interested in money or publicity, so they wanted to keep the video and report away from the media until examination and clarification. Running through the video material with *Magix Program Video 2.0 Deluxe*, 56 images took a total of 2.3 seconds. Thomas Fuchs produced a composite, i.e., a superimposition of all video images on his recording (see Fig. 3). The wavy trajectory differs from a parabola. Visible are two light maxima and three jumps through lost images.

The German Weather Service (DWD) reported a flat high-pressure system over Scandinavia on April 19, 2003, with Germany at its southern edge. At 20:00 CEST, the warm front of a low over France had reached southern Germany with showers and thunderstorms. It was almost stationary until 02:00 at night. Zwönitz had bad weather with overcast sky, rain showers, and some lightning strikes. Certainly, the video did not record a meteor under the clouds. Gerhard Diendorfer, head of ALDIS Austria, also ruled out ordinary cloud-ground lightning. The reflection hypothesis was checked on the spot in 2003 in another webcam video by turning on the room lighting, which appeared motionless in the form of four light circles. Fireworks are implausible during a thunderstorm and without a festival. For a privately shot signal rocket, appearance and trajectory are atypical—its luminous ball does not fly in curves, but in a simple ballistic parabola. As with the Montafon photo, the BL color temperature is in the yellowish area near to white.

On a vacation trip, the author visited the Fuchs family at Zwönitz on September 16, 2003, for a field investigation. There was no reason to doubt the reported case history. An angular determination of the trajectory length found 20-25 degrees, which gives an angular velocity of the object of at least 10 degrees per second. At an assumed distance of 100 m, this would have been a speed of 65 km/hour. A local press reporter found out that at 18:45 CEST, the Chemnitz Rescue Center had received a false fire alarm from a garden center 1.7 km from the camera position. Because of 2-3 minutes time uncertainty for the observer's computer time, this was practically at the same time. Asked about the frequency of false alarms during thunderstorms, the fire brigade

officer said that technical problems like local grid overvoltage were quite common. Gerhard Diendorfer, ALDIS Vienna, found in the time interval 18.40 to 18.50 CEST 13 flash registrations in a 20 km radius. Two negative cloud-ground flashes with 12 and 15 kA shortly after 18:46 were possible candidates for the local main's overvoltage. Alfred Gaiswinkler, a retired power company director, contacted the Vattenfall Center about possible overvoltage in their high-voltage network. None did occur in the time window in question.

Next came the critical review of the webcam video regarding a possible fake, i.e., fabricated data. This was done by the two video professionals, Ruediger Schrattenecker and Siegfried Baumegger (2004) of the University of Applied Sciences Salzburg. They analyzed the Zwönitz video with Premiere Pro and Photoshop 7.0. Due to a single-image analysis, they found the already-referenced frame dropping, picture losses from the 25 fps recording to the 15 fps storage. To discover possible compositing (assembling objects or animations into a video via postproduction), they used frame contrast analysis. For eight images, they examined enlarged edge pixels between object and environment in Photoshop 7.0 for color value differences as they occur when copying in foreign material. None were found. Another possible trick to "iron out" RGB differences by multiple MPEG encoding to remove processing tracks was not detectable. The video professionals commented: "If the two really faked that, you should recommend them to Hollywood." Thus, Schrattenecker and Baumegger confirmed the authenticity of the video record. The strength of the Zwönitz case is that the technical recording conditions of .avi film are well-known. Further interpretations of the material cannot come from a theorists' desk but have to be empirical checks in which possible explanatory hypotheses are tested. If the Zwönitz object really was BL, then we have a two-second record of its trajectory.

European and International Ball Lightning Statistics

Brand (1923, 2020) published the first European BL monograph 99 years ago where he collected and analyzed 215 cases from scientific journals, from 19 European countries and some from overseas. What can be said about published European cases today? This was discussed by Keul and Schwarzenbacher (1989), Keul and Stummer (2002), Keul (2005, 2006, 2008), and others. A BL survey in 21 European countries (Keul 2005) showed that weather services in 17 countries are aware of the phenomenon. Official reports exist from Austrian climate observers, unofficial reports from staff come from Austria, Finland and Sweden. Police and media reports of BL as well as reports from the public are present in 15 of the 21 countries. BL cases are scientifically documented in 14 of the 21 countries. Publications followed in 10 of the 21 countries. Published European BL case collections, each with over 200 reports, exist for Germany, Austria, France, Italy, Hungary and Russia (Keul 2005). There are French databases by Hubert (1996) and Piccoli (2011), Italian databases by Toselli (1999) and Carbognani (2006), and a Hungarian one by Egely (1987). Ex-USSR databases contain over 3,000 documented cases (Stakhanov 1979, Smirnov 1993), also from Asia.

The author compared six national data sets based on 22 important variables (Keul 2008). Some of them (year, thunderstorm, duration, shape, distance, size, color, details) are present in all databases; others (particularly witness-related data such as gender, age, occupation, reaction, number of observers) are only available for the German-speaking and French areas. Observation age: 30-70% of the observations in Germany came from children or schoolchildren. Emotional reactions to the observations were similar in Germany and Austria—half were interested, half were

scared. Number of people: 40-50% German-speaking observers were alone, whereas in France 60% of the cases had two or more observers. Years: Most BL databases start around 1900 and end before 2000. The maximum years in four databases were in the 1950s and 1960s. Months: All files except Italy show a clear summer maximum with 60 to 80% of the cases. The summer summit is steep in Germany, Austria and the ex-USSR and is flatter in Italy and Hungary. Time of day: In four databases, BL followed the thunderstorm maximum in the afternoon (between 12 and 6 P.M.). In Italy, 30% late events (6-9 P.M.) were also recorded. Thunderstorm occurrence: A typical pattern for 50 to 80% of cases. But 6 to 20% also happen outside thunderstorms, in Italy almost 40%. In the German-speaking countries, around 60% report simultaneous precipitation and 20 to 40% simultaneous cloud-to-ground lightning. But a larger number (25-60%) has no connection with lightning. Number of objects: In Germany and Austria, over 90% of the BL are single objects. Duration data: 40-80% fall within 1-5 seconds; most cases take no more than 20 seconds. Shape: 80 to 90% report circular or round objects. Distance: The distance object-observer is less than 5 meters in 50-70% of cases, i.e., in close proximity. 70-80% are within 20 m. Size: The size category has mean and median in the interval 10-50 cm. 60 to 80% of the objects are smaller than 30 cm. More than 75% of reports in German-language countries have a sharply defined BL surface. Color data from all six databases have their maximum in the red region of the visible spectrum (50-75%). Typical colors reported are yellow, red, and white. Brightness: It is described as not dazzling in 55-90% of cases. However, around 10-25% are dazzling (as high as 44% in Hentschel's German collection), which brings them close to electric arcs from a short circuit, especially in the case of a white-blue color. Movement: Typical primary motion in German-speaking countries and the ex-USSR is horizontal, with 50-75% of the cases. Other movements are descending, complex, stationary, or (rarely) upwards. Secondary motion such as hopping is reported. Location: All six databases differentiate between observations indoors and outdoors—the typical indoor percentage is 35 percent, less in Hungary, and up to 50% in the ex-USSR. Residue is mentioned in 20-30% of the cases, in France even 43%. Noise is less common (15-20%), odor is even rarer (7-15%). An end-of-observation-explosion is reported in 30-50% of the cases; in France only in 13%.

Finally, six national BL files show more similarities than differences for central parameters. Although the data come from locations up to 3,000 km apart with very different climatic conditions, basic characteristics such as occurrence during thunderstorms, distance from the observer, size, color, and brightness form common clusters. One out of three BL events happens inside a building. Up to 60% of the objects end explosively. Further international data sets come from the USA (N=513 McNally 1966; N=112 Rayle 1966) and Japan (N=2,060 Ohtsuki & Ofuruton 1989). Although the Japanese collected assiduously, they hardly published any results. In the US, 85% of BL cases were related to thunderstorms—in Europe, the percentage was higher. The most common US values for observation time (1-4 seconds) and size (13-40 cm) are similar in Europe. The US color maximum in the red-yellow area (38%) is also comparable. In the US, sudden decay accounts for 74% of cases, and in Europe up to 60% explode. So, 99 years after senior teacher Walther Brand (1923), we have 4,420 cases instead of his 215, but with sometimes dubious data quality, while Brand's cases came from scientific journals, and he further reduced their number from 600 to 215. In addition to the problem of data quality, next analysis steps should deal with clusters of characteristics, such as the simultaneous occurrence of “dazzling,” “metal contact,” and “blue-white,” which speaks for short-circuit arcs. In addition, Geographic Information Systems (GIS) should be used on a routine basis, i.e., cases should be geo-referenced in topographic and climatological maps. The pioneer study of 34 European BL events versus

lightning location data 1994-2016 which showed a correlation with strong positive CG strokes (Keul & Diendorfer 2018) is about to be replicated and tested with US data (Sonnenfeld et al. 2020).

Obstacles and Opportunities for a Scientific Solution

After four centuries of BL reports, any further public controversy about the very existence of BL sounds medieval, as in pre-Enlightenment-times. BL case data are intelligible to natural and social scientists, and a considerable number of well-documented cases from qualified observers are known internationally (Keul 2021). What remains as epistemological difficulties are a) the short duration of events, b) the randomness of observations, c) non-reported observations, i.e., the dark field, d) emotional interpretation and subjective frames of reference, and e) a large number of physical objects and effects that interact under non-laboratory conditions. Therefore, what is needed first is definitely not new speculative theories, but more field research, especially on material traces and photo/video cases, with the aim of identifying places and conditions as “hot spots” where the phenomenon appears more frequently and where instrumental records can assist research. Only high-quality, valid records will then enable laboratory projects to reproduce the natural effects.

Contrary to widespread public fears, average BL events are not fatal (although injuries can happen; Shmatov 2003) and in most cases end without causing damage. As a result, so far there exists no particular pressure on the security and insurance industries to invest funds in a scientific study. BL-interested scientists are mostly part-time researchers and receive little or no funding. BL research is basic research, but may produce interesting applications. Vladimir L. Bychkov, ICBL Vice President, noted in 2012 that further progress could be made if one looked closely at the interaction of BL with natural materials (metal, sand, glass), with BL models moving from pure plasma to a combustion of solid matter in plasma. In order to obtain more reliable data, field research should be internationalized, refined through training, and evaluated critically. BL research needs more interdisciplinary cooperation, for example with historians, cultural geographers, consulting meteorologists, and digital forensic scientists. In 2012, BL was included as a new event type in the ESWD, the largest European database for storm events (European Severe Weather Database; Holzer et al. 2011).

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Very Close Encounter with a UAP in Levitation

Éric Maillot and Jean-Michel Abrassart

Abstract: The “Amaranth” is a very famous French close encounter of the second kind that was officially investigated by GEPAN in 1982. It is still generally considered “unexplained” because of its duration, the proximity of the witness and some alleged physical effects on plants. Working within the conceptual framework of the Psychosocial Model, we put forward in this article a mundane explanation. After looking for more than a decade for unpublished original documents, we have found new information that support the hypothesis that a Mylar balloon was the real cause. We present a coherent scenario and analyze the perceptual mechanism that led to this case. Based on those, we think that it should now be regarded as “probably explained.”

Keywords: Amaranth, Close encounter of the second kind, GEIPAN, Mylar balloon, UAP, Perceptual illusions, Psychosocial model, UFO, UFO landing

Introduction

The “Amaranth”¹ is one of the most famous French UFO cases, considered by the *Groupe d'Études des Phénomènes Aérospatiaux Non-identifiés* (GEPAN)² as being one of the strangest that they have ever investigated. This case takes its name for a plant that was chemically analyzed in the hope of finding tangible proof of a UFO landing. The claim is that the plants withered because of the proximity to the UFO. This Amaranth case has been classified by GEPAN in the category D of *Unidentified Aerial Phenomena* (UAP),³ that is “unexplained after investigation.” Working inside the theoretical framework of the Psychosocial Model (Abrassart, 2016b), we will discuss a possible mundane explanation for this case.

After looking for more than a decade for unpublished original documents, we have found information that supports the hypothesis that a Mylar balloon was the real cause. Previously, some claimed that it was impossible for a Mylar balloon to have stayed totally still and floating in mid-air for such a long period of time. After careful review of some new evidence available, we found that there was in fact a possible support in the garden at the time of the observation: some amaranths⁴ were there that could have done the job. The witness did some gardening and pulled them up before the GEPAN investigator arrived, but their presence was still documented by the *gendarmerie*'s⁵ preliminary investigation.

Realizing this, we think now that the Mylar balloon hypothesis is a very strong candidate to explain this famous French case. These balloons, which still today deceive witnesses and experts, were still rare objects in the early 1980s, and thus seldom observed and unrecognized. If the nickname “Amaranth” is given to this case in reference to alleged effects on the so-called

¹ All the images extracted from NT17 are published here with the special authorization of the GEIPAN (private communication with the second author). They are all ©CNES/GEIPAN.

² GEPAN is the ancestor (1977-1988) of the current *Groupe d'Études et d'Information sur les Phénomènes Aérospatiaux Non-identifiés*, or GEIPAN, a unit of the French space agency *Centre National d'Études Spatiales* (CNES).

³ We translate here “Phénomènes Aérospatiaux Non-identifiés (PAN)” used by the CNES as the English equivalent Unidentified Aerial Phenomena (UAP).

⁴ Or maybe hollyhocks: it is impossible to know for sure at this point.

⁵ A military force with law enforcement duties among the civilian population in France.

dried flowers, the irony would be that these plants would be at the same time the mystery *and* the explanation!

After the previous critical review of the weaknesses in the investigation of the Amaranth case by D. Rossoni, É. Maillot, and É. Déguillaume (2007, pp. 326-349) and due to the lack of verified elements supporting hypotheses, a UAP D classification still seemed acceptable but, with the possible mundane explanation proposed in this article, we do not think it is still warranted. This case perfectly illustrates that sometimes perceptual illusions can last a long time and transform mundane objects into something very strange and mysterious.

General Presentation of the Case

This is a very impressive case at face value. A summary of the official investigation was published in *Note Technique n° 17* (NT17) and written by Jean-Jacques Velasco (GEPAN, 1983), who would become the director of GEPAN the same year.

October 21, 1982: “Henri”⁶ is 30 years old and a cell biology researcher. He lives in Laxou (Nancy district), in Meurthe-et-Moselle (eastern France). He decides that day to do some gardening. At 12:33, Henri looks up and sees something in the sky. A plane is the first thing that comes to his mind, but then he realizes that a UFO is flying towards him. The bright spot becomes a round shape. It suddenly stops near him, levitating one meter above the ground. Henri evaluates the diameter at 1.5 m at a height of 0.8 m. Henri goes to fetch his camera, but it does not seem to work when he comes back. He then approaches the UFO and looks at it closely. He says “Hello” to it in different languages, but he gets no reply. At 12:56, the UFO flies away, just as silently as when it arrived. Henri then gives his testimony to the gendarmerie (which does a preliminary investigation from October 22 to October 27, 1982⁷), which later leads to the full-on GEPAN investigation.

Unfortunately, the “Amaranth” remains one of the rare cases where access to the original report⁸ is still not possible on the GEIPAN online database. Éric Maillot (the first author of this paper) asked in a private communication with J. Paul Aguttes, the current director of the *Groupe d’Études et d’Information sur les Phénomènes Aérospatiaux non identifiés* (GEIPAN), to explain the reason behind this. His answer was that priority has probably been given by his predecessors to the more recent unpublished online cases and its priority to process the testimonies that arrive regularly. According to him, since the original report dates to 1982, it may be posted in the future, when someone takes the time to go back in the archives or “revisit” this UAP D. We think that, for such a prominent case, GEIPAN should make the effort of putting all the original pieces and report on their online database for further critical examination by the scientific community.

What made this case famous is that there were some alleged chemical alterations of the amaranths due to the presence of the UFO nearby. Some chemical analysis was made by the GEPAN team, but NT17 is in fact inconclusive on that matter: the plants’ leaves did wither, but it is impossible to know for sure if it is because of the presence of the UFO or simply because of the ordinary environmental condition at that time of the year. GEPAN also took some samples of the grass (GEPAN, 1983, pp. 47-51), but NT17 does not state why no results concerning the grass was ever published, despite samples correctly identified on two

⁶ Pseudonym used by GEPAN to protect the anonymity of the witness.

⁷ The GEPAN investigation started October 29, 1982.

⁸ The original report is different from the *Note Technique*. NT17 is only a summary with partial quotes from the statement and audio recordings.

perpendicular axes (a methodology that wasn't used for the Trans-en-Provence case⁹) and preservation in liquid nitrogen at -30 °C. For some reason, so far unknown to the public, only two amaranth samples (which were poorly preserved in the refrigerator at 4 °C) seem to have been ultimately analyzed.

Jean-Jacques Velasco stated in many interviews that the Amaranth case is one of the best GEPAN investigations ever. For example, he said during a TV interview for ARTE¹⁰ that the Amaranth case and the Trans-en-Provence case “show that these phenomena interact with the environment”¹¹. In 1997, he also used the Amaranth case at the Pocantico Symposium to support the existence of “genuine UFOs” with physical effects on the environment (Sturrock et al., 1998).

A skeptical investigator from the *Comité Nord-Est des Groupes Ufologiques* (CNEGU), Raoul Robé,¹² thinks that the Amaranth case could have been influenced by the movie “La Soucoupe de Solitude,” directed by Philippe Monnier (1982),¹³ which was released around the same time. We are unconvinced because though the size and the proximity of the witness is indeed the same, the other details are different.

Problems with GEPAN's Investigation

D. Based only on the information then available to the public, D. Rossoni, É. Maillot, and É. Déguillaume (2007) did a comprehensive critical review of the weaknesses in the investigation of the Amaranth case in their book *Les OVNI du CNES, 30 Ans d'Études Officielles (1977-2007)*.

- Firstly, the fact that there is only one known witness to this case is a major issue. GEPAN did not try to find other witnesses, even though it all happened in a suburban area. The team could have tried to find if other people saw it either by simply asking the neighbors or with a press article, but they took neither of those steps.
- Secondly, it doesn't seem that GEPAN took the time to have a psychological evaluation of the witness done by a professional. It is worth pointing out that even if GEPAN had collected pertinent information about the witness's mental health, this organization would not be able to disclose it, as it would be strictly confidential. To be precise, the psychological evaluation of the witness, including a history of alcoholism or drug abuse, cannot be disclosed by GEPAN. On the other hand, if a witness himself states that he is taking psychotropic medications, that could be included in a *Note Technique*.
- Thirdly, GEPAN's investigation also completely overlooks the issue of his visual acuity, which could have facilitated a perceptual mistake. Was this thirty-year-old laboratory scientist affected by myopia, astigmatism, or hyperopia? If so, did he wear his glasses when cleaning the garden planters before the arrival of the object? We just do not know.

⁹ The *Note Technique* n°16 (GEPAN, 1983) is the one about this other very famous French case. Rossoni, D., Maillot, É. & Déguillaume, É. (2007, pp. 296-316) also provides an in-depth criticism of the work done by GEPAN on this case.

¹⁰ ARTE is a European public service channel.

¹¹ “Sciences et OVNI,” ARTE, March 17, 1996.

¹² Private communication with the first author.

¹³ It is a French adaptation of Theodore Sturgeon's short story “A Saucer of Loneliness.”

- Finally, the way the analysis of the Amaranth plant was done was also problematic in several ways. Among other things, the GEPAN team came for taking some samples eight days after the sighting, which is quite a long time. On top of that, the witness did some gardening just the day before, pulling out plants (all of them in the area near the alleged UFO landing, including amaranths and hollyhocks) and damaging some of the evidence in the process. It is suspicious since he is supposedly a cell biology researcher and should have known that doing so would thwart the chemical analysis.

Hoax, Hallucination, or Illusion?

Since there is no hard proof at this point of alien visitations of the planet, the theoretical framework of the Psychosocial Model (Abrassart, 2016b) posits that the best methodological approach of a UFO case is to look for mundane explanations. We will first briefly discuss here the hoax and the hallucination hypothesis.

The hoax hypothesis doesn't seem very plausible for the Amaranth case, and, from a methodological point of view, we think it is better to explore all other options first. The reasons for rejecting the hoax hypothesis are as follows:

- First, the witness didn't try to become famous or to make money with his story, instead insisting on being anonymous.
- Secondly, he went himself to the gendarmerie to testify with his spouse. Usually, a hoaxer wouldn't do that since it presents a risk of being caught lying and possibly being in legal trouble later. GEIPAN claims a hoax rate of only 2.4%.
- Lastly, his story is atypical: we feel that a hoaxer would have gone for a more classical Close Encounters of the Third Kind (Hynek, 1972), or simply of the First Kind, instead of a Close Encounters of the Second Kind. Also, details like the fact that he didn't try to touch the UFO immediately raises questions (why not try to touch the object based on the duration of the sighting and the proximity of the witness?) and thus would probably not be included by a hoaxer.

D. Rossoni, É. Maillot, and É. Déguillaume, (2007, pp. 326-349) argued for other possible explanations (hallucination or aura of an acephalgic migraine). There must be UFO cases that are explained by hallucinations (Abrassart, 2015). Even if those are very rare, it would be the contrary that would be surprising. If there is so far no proof that aliens visit earth, there is ample evidence that hallucinations do happen. The fact that Henri is the only witness and that he could not manage to take a picture during such a long sighting gives credence to the hallucination hypothesis. Another argument in support of this idea is that Henri never tried to touch the UFO to see how it felt, even though it posed no apparent threat.

Nevertheless, the Psychosocial Model posits that most cases are explained by misinterpretation of a stimulus (Abrassart, 2016b). In other words, most cases are perceptual mistakes (illusions), not hallucinations.¹⁴ For that reason, we kept looking for a potential stimulus that could explain this case without invoking the hallucination hypothesis.

Investigation of the Mylar Balloon Hypothesis

¹⁴ In psychiatry, if illusions are perceptive distortion of an objective stimulus, hallucinations are defined as perceptions without any stimulus.

Our first idea was a two-color Mylar balloon already reported to GEIPAN as the misidentified source of the “pilot Fartek” case (Arc-sur-Tille (21), December 8, 1979).¹⁵ The difficulties with this hypothesis in the “Amaranth” case are as follows:

1. The balloon would have to be able to stay motionless for 20 minutes at less than 1.70 m above the ground. However, no support was visible on the map or on the photo of the site available in NT17. They were some clotheslines, but they were not at the location of the UFO. Moreover, in that case, the balloon could not have remained balanced: even suspended, entangled by a hypothetical nylon thread; it would have found itself in a vertical position and not horizontal as described. On top of that, it would at least have oscillated at the beginning.

2. There was a small privet whose branches could have supported a balloon, but it did not match the position of the UFO.¹⁶

3. The witness gave his testimony to the *gendarmerie* only 5 hours after the sighting, which means he would have had to alter his memory of the event from a balloon to a UFO in a very short time. We know from psychological studies (Loftus, 1996) that memory alterations do happen, but they usually take time. Decades happened before some extraordinary testimonies (including alien bodies and so on) appeared for the Roswell incident (Fernandez, 2010), but in the Amaranth case the timespan seems too short.

If the testimony wasn't the result of a memory reconstruction, and if we excluded the hoax and the hallucination, the only possible explanation left was a perceptual mistake. During an informal discussion about this case with a former GEIPAN director, Xavier Passot (director of GEIPAN from 2011 to 2016), he mentioned to the first author the existence of two audio recordings made during the GEPAN investigation. The first author obtained permission from GEIPAN to listen to them. Despite their poor sound quality, we hear a witness sincerely disturbed by what he saw that day. He doesn't sound like a prankster making a sophisticated hoax.

More surprisingly, the witness mentions, spontaneously and several times at different moments, a detail that obviously disturbs him: the hollyhocks. Here is the transcription of some passages of the audio recordings [our comments in brackets]:

(a) *They [the Gendarmerie] came back several times on the issue [of] the environment [silence] if I had some [silence] tall hollyhocks and if they had moved. I answered it was certainly likely, but my attention was not focused on that.*

(b) *They asked me again about the environment [UAP], saying it's big [words barely audible], it had to move. I did not say yes or no. They [the amaranths or hollyhocks] have certainly moved.*¹⁷

(c) *They were in the four corners. They were two hollyhocks in the middle [of the amaranths].*

¹⁵ Eric Maillot, 2004 http://www.unice.fr/zetetique/articles/ovni_pilote.html (accessed Feb. 27, 2022) and *Les OVNI du CNES: 30 Ans d'Études Officielles (1977-2007)* in chapter 6.2, “Varois et Chaignot.”

¹⁶ The position of the UFO is open to debate. We base our analysis on the pictures taken by the *gendarmerie* but, unfortunately, they didn't put a meter stick the ground for size reference.

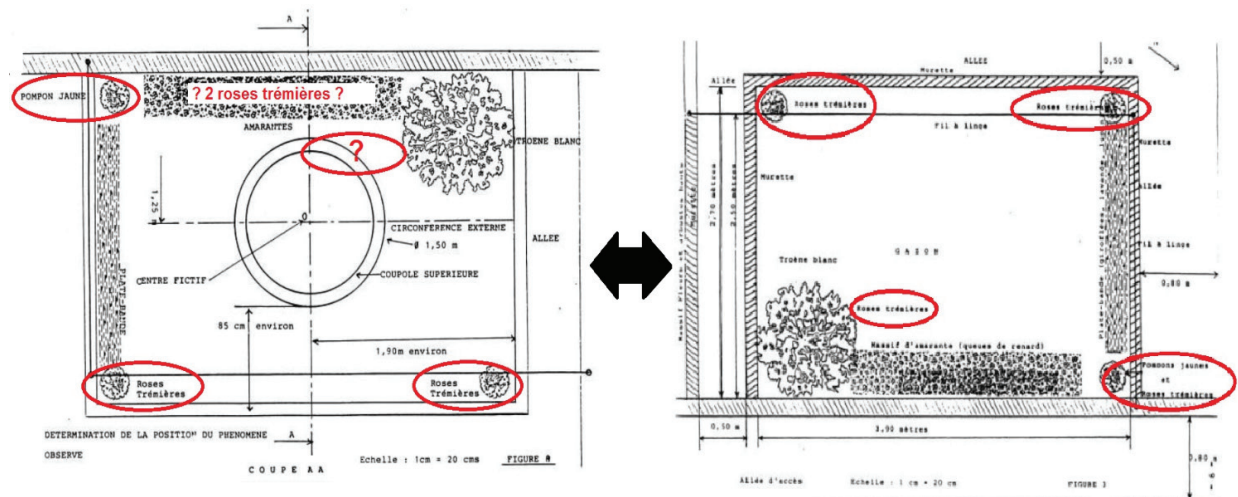
¹⁷ NT17 (GEPAN, 1983, p. 32) states: “Mr. Henri mentioned that hollyhocks, very tall flowers on stems and therefore sensitive to the slightest breath of air, had at no time moved.” This statement is incorrect: it is contradicted by the audio recordings by the same GEPAN.

(d) When he makes a list of all the other plants present in his garden for the investigators, he makes this revealing slip of the tongue with two very different plants: *there will also be hollyhocks, uh, arums that were behind.*¹⁸

Why is the witness so concerned by those plants? We think that it is in reaction to the policeman standing in the intact site on October 22nd. He must have noticed (and let the witness know he was surprised by it) that some long stems of hollyhocks had to be very close to the UAP, when the witness claimed that only the amaranths were affected. Indeed, the fact that the UFO would have affected the amaranths but not the hollyhocks doesn't make much sense.

It was by trying to confirm that the Mylar balloon hypothesis was refuted that the first author finally understood the importance of a small detail in NT17 (GEPAN, 1983, p. 13): there were hollyhocks in the four corners of the garden among the plants present in the garden, including “2 extra feet in the middle of the amaranths.” The witness will tell the GEPAN investigators who arrived after the plants had been uprooted, that their size was “about the height of the witness, namely around 1.70 m.” Because the information that we have about it is contradictory, it is fair to say that, at this point, we don't know the exact location of these plants, but we do know for certain they were present. Hollyhocks stems, of a man's height, tend to bow toward the ground in late summer. Their two or more long and strong foliated stems could thus have been the discrete support of a Mylar balloon.

On the drawing presented by GEPAN (GEPAN, 1983, p. 9), the hollyhock plants closest to the UFO are there, but apparently not in their correct place. On top of that, they mysteriously disappear from figure 8 (GEPAN, 1983, p. 27). Contrary to what we thought previously, the support for a Mylar balloon was there, but invisible on the Figure 8 plan or on the unusable photocopy of a photo of the site presented in NT17 (GEPAN, 1983, p. 11).



Hollyhocks are circled in red. The two hollyhocks "in the amaranths" are not precisely located on various plans of the site.

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NT17 indicates that GEPAN takes its “intervention decision on October 27th.” They must have informed the witness beforehand (or at least on the same day) and explained to him the purpose of the visit: to take additional plant samples. NT17 also indicates that the witness pulled out the

¹⁸ The “there will” (future tense) is strange here, but it's the tense used by the witness when he indicates on site the locations of all the plants that investigator Jean Jacques Velasco must note.

amaranths and the hollyhocks “two days before” the GEPAN investigation (which started October 29th), thus the same day the decision was made to go see the garden. These plants seemed to have been a problem for him and he decided (consciously or unconsciously?) to not only remove some of the amaranth, but also all the big stems of hollyhocks. None remain on the GEIPAN photos, not even those planted at the four corners of the walls, presumably far from where the UFO was. Yet they were still blooming when the *gendarmes* came, according to their photos. The witness himself confirmed the normal state of flowering of the other clusters of colorful amaranths, except for those that he considers to be withered and close to the UFO.

In 2015, the first author sent an email to GEIPAN asking if there are in their archives usable photos taken by the gendarmerie and thus showing the intact site, before the uprooting. Xavier Passot (director of GEIPAN from 2011 to 2016) then kindly sends “the only photos” (*sic*) which he thinks he has: four quality photos, but which are those taken on October 29th by GEIPAN, not by the gendarmerie. They are, however, instructive when compared closely with the plans given in NT17. One can clearly see the area of turned-over soil where the amaranth plants were ripped out. Here again an important detail appears: this strip of soil does not form a regular rectangle along the fence as falsely drawn in NT17.

On that picture (see below), it is possible to see clearly that part of the dirt is going towards the location of the UFO. We have here a clue of the position of the plants that were removed. It is now impossible to know for sure whether it was amaranths or hollyhocks that were at this exact position.



Any further investigation would have stopped if, at the end of 2016, the first author had not by chance seen on YouTube a clip of the “Planète+” tv show about UFOs.¹⁹ In that clip, Jacques Patenet (director of GEIPAN from 2005 to 2008) presents the case (0:19 to 0:45) and furtively shows a sheet with three snapshots. After a frame-by-frame examination, the first author realized they were annotated as taken by “the gendarmerie on October 22nd”! One of them shows a view of the garden that looks very different, a lot less clean, from the one that can be seen on GEPAN’s photos and plans.

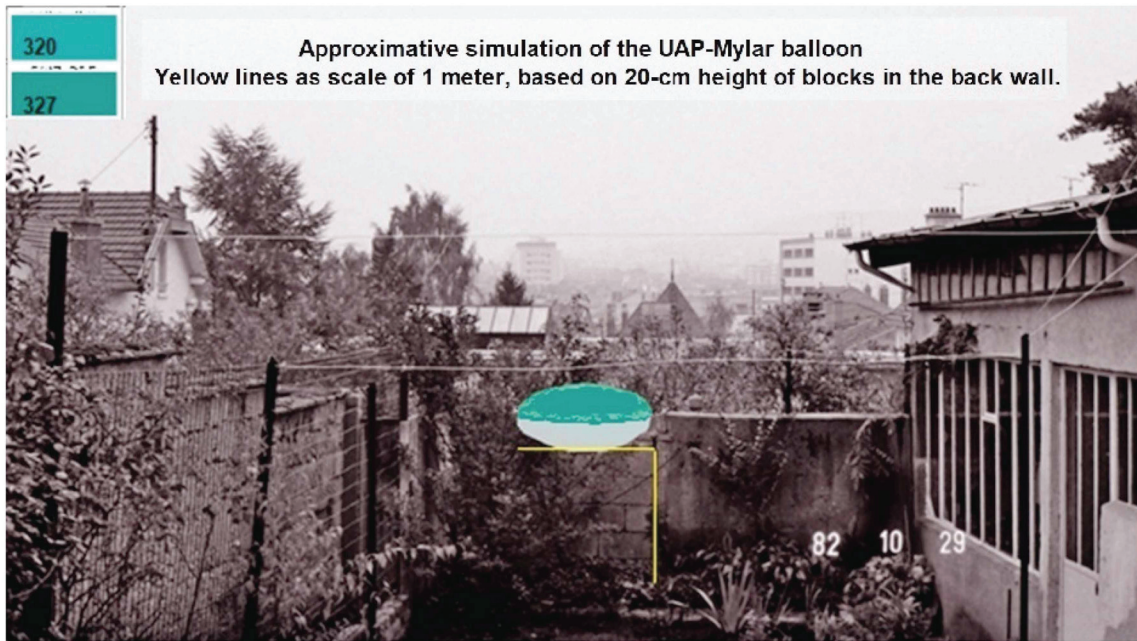
A new request was made in January 2017 to Jean-Paul Aguttes (director of GEIPAN since 2016) to obtain these shots in high quality. The goal was to check if there were any plants or stems above the grass and below the position of the UFO. Jean-Paul Aguttes did transmit those three pictures but only in low quality and in PDF format. A subsequent request to get the negatives was not successful since it fell at a time of relocation of GEIPAN’s archives. However, the available images clearly corroborate the Mylar balloon hypothesis since it undeniably shows a small garden looking like a small “jungle” with stems and leaves where the UFO could have been. It is surprising that the GEPAN investigator, who was in possession of these photos, did not notice or report in NT17 this visual difference between the clean aspect of the garden when he came on site and the gendarmes’ pictures of the initial state of overflowing vegetation above the grass.



In 2018, GEIPAN confirmed that it does not have other archives or photographs for this case. It seems surprising that the gendarmes on site only took three pictures, furthermore that they were in black and white. Perhaps there are other images that have not been used, a priori deemed not illustrative? It would be interesting for GEIPAN to search the Gendarmerie’s archives for potential negatives or other complementary prints (perhaps taken from another angle or clearer) likely to support or refute the hypothesis developed here.

Since we didn’t have anything better, we used one of these shots taken from the terrace, the only one of the three that gives an overview with measurable elements, to make a very approximate visual simulation (see below) of a circular Mylar balloon, a large model with two sides colored, integrated into the tight environment but without the initial dense vegetation.

¹⁹ <https://www.youtube.com/watch?v=KPTsdcEf3RU> (accessed Feb. 27, 2022).



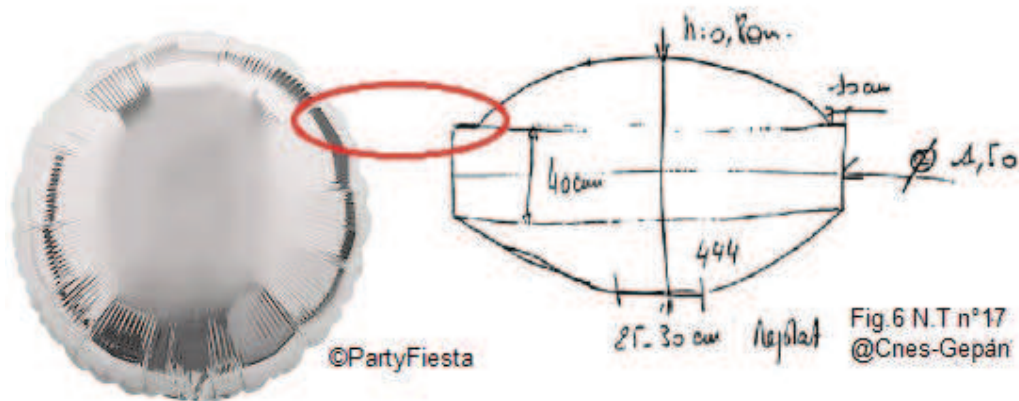
Analysis of the Illusion

If you put yourself in the shoes of someone who cannot use the right words (hereafter put in parentheses), since he does not know what the object really is, you will find that Henri's description mostly matches the characteristics of a Mylar balloon: the "*blue green lagoon*" shades on the top and "*beryllium*" underneath; the "*filled*" aspect (inflated with gas), "*Plexiglas*" and "*metallic*" or "*smooth surface*," logically described as "*a pretty object*" (a balloon is decorative and festive in nature), with moving effects "*neither liquid nor gel*" that the witness struggles to describe as "*internal or external*," and so on.

The witness overestimated the size of the object (1.50 m, when a large balloon is 0.91 m), but that can be explained by the fact that the object was more impressive in the narrow space of the little garden (3.4 m wide and enclosed between two walls). It should be also noted that there are indeed green Mylar balloons matching the Pantone shade —bluish-green 320-327—chosen by the witness.

The only difference in description of the object lies in a detail of the UFO shape: the 40-cm vertical edge surmounted by a 10-cm flat outline at the top. A party balloon normally does not have thick straight edges or a flat surface. However, some photos of Mylar balloons show that such illusion of faceted surface, flat top or flat edge on the outline is possible due to an ordinary reflection effect.²⁰ This depends of course on the inflation, on the lighting angle, and on the observer's perspective. The witness had only to observe such a reflection to then transform it in his drawing, during the reconstruction, into an actual detail of the structure (see illustration hereafter).

²⁰ This is like the Mach bands illusion: named after physicist Ernst Mach (1838-1916), this illusion exaggerates the contrast between edges of slightly different shades of grey as soon as they come in contact with each other by triggering edge-detection in the human visual system.



A mylar balloon seen from above creates the illusion of a flat crown on edge, as in the witness drawing. This is a so-called "Chevreul-Mach" contrast illusion.

GEPAN itself conducted several psychological experiments to test and confirm the hypothesis that UFO witnesses add strange details to sightings in this manner. That perceptual psychology research has been published in NT10 (GEPAN, 1981).²¹

NT17 tells us that the witness “*is not particularly interested in the UFO phenomenon, nor in science fiction themes.*” That may very well be true, but we think that, because of cultural influences (Abrassart, 2014), he cannot help himself, and associates what he sees with an alien technological object, a process we call “saucerization” of the stimulus (Abrassart, 2016b). Indeed, a person need not have an interest in ufology or even in science fiction to be culturally exposed to UFO mythologies and iconographies.

It seems inconceivable that a witness, supposedly a normal person of sound mind, could be the victim of a simple yet powerful illusion lasting for 20 minutes.²² Lots of people would express incredulity at this argument. Yet as soon as you leave the context of the UFO phenomena, it is easy to demonstrate that it is, in fact, not unusual. There are indeed plenty of optical illusions that prove this (M. Bach and C.M. Poloschek, 2006). You can look at them as much as you like, and the illusion will persist. If it is true that for some illusions it is possible to switch the perception (like for example the ambiguous image of the rabbit–duck illusion), there are also many known examples of visual illusions that persist in the long term, which we are unable to correct or dismiss from our perception.²³

In ufology, many perceptual mistakes have been documented in the scientific literature. For example, perceptual mistakes with a well-known object, the Moon, often last more than twenty minutes (E. Maillot et al., 2019). The lack of hard proof in favor of the extraterrestrial hypothesis since 1947 (when ufological investigations started) clues us to the fact that human

²¹ The person behind NT10 is Manuel Jimenez, who finished his PhD in psychology on that same subject the next year (Jimenez, 1994).

²² The witness stated that he looked at his watch. Of course, we still cannot be sure that this duration is correct, and that Henri didn’t overestimate the time the UFO was in his garden.

²³ To give only one example of a persistent illusion, there was a photo of “oily legs” that went viral on Twitter in 2016 (London, 2016). There was no oil involved but only traces of white paint. Even when the correct explanation is given, it is difficult to unsee the illusion.

beings indeed make those perceptual mistakes, since that is the only way to account for some testimonies if there are no extraterrestrial spaceships visiting us.²⁴

As in magic shows, once the illusion takes hold, we do not understand reality anymore, and accept that impossible things may happen. Yet the magic tricks used are often basic. Let's take the example of a street levitation trick in which someone is holding a stick in his hand and seems to be sitting calmly in the air.²⁵ The performer who levitates in public is like a UFO for the spectators because they do not see any support likely to bear his weight. The illusion persists even though they can go around the scene, look at it from different angles, or lean in to look very closely. Our brain refuses to see the stick as a logical support, with its remaining part partially hidden. Exactly as the witness from Nancy did with the UFO in his little garden: Henri just refused to see the surrounding plant stems as the supports of a very light object when he convinced himself that the UFO was a manufactured and heavy object that nevertheless rested at *"one meter"* above the ground, without a visible propulsion system, noise, or exhaust. This mental representation, though incorrect, could no longer leave his brain. It was impossible to get rid of it without touching the object, which he says he did not dare do.

This cumulative case we are putting together for the Mylar balloon hypothesis is strengthened by the data of the weather archives for Nancy. Seeing this balloon coming down towards him, probably under-inflated in a cold morning atmosphere, the witness is immediately convinced that a heavy vehicle *"brakes"* while going down towards his garden and will *"make a crater or a hole."* He said during the investigation: *"I thought it was really something that would fall into the earth."* Frightened, he steps back toward his home. When the object stabilizes quietly above the ground and remains motionless, he does not imagine for a moment that it is ultralight, discreetly lying down flat on the long stems and leaves of the present plants (hollyhocks or amaranths), sheltered by four walls from the weak wind (maximum 2 m/s) in the narrow garden.

When we investigate anomalies, environmental factors often add complexity to the case. Here, it is the cramped space combined with the weather conditions. After 20 minutes of stillness in the midday sun, the balloon warms up little by little between the walls of the garden and therefore expands, again becoming able to fly at the slightest turbulence of air between the houses.

The weather data²⁶ support this scenario, with the temperature changing from 9 to 18 °C between 10:00 AM and 4:00 PM. During the same period, there is regular decreases in the high humidity (97 to 72% relative humidity) and the atmospheric pressure (1016,4 to 1011,6 hPa) that favor the expansion necessary for the take-off. A weak wind (11 to 7 km/h) coming from south-southeast is present. After a whole morning totally covered with clouds (8 oktas), around noon the sky clears quickly and reveals the sun all afternoon (from 0 to 2 oktas).

The witness, who by then had moved to his terrace, and not near the UAP, may not have felt the draft that triggered the balloon's ascent. The descent is logically described as slower than

²⁴ The only other alternative would be the paranormal hypothesis (Ouellet, 2015). The problem with this approach is that it is unfalsifiable. Rather, an unfalsifiable hypothesis is not wrong, it's just unscientific. If parapsychologists don't find a way to empirically test the paranormal hypothesis for explaining the UFO phenomena, the psychosocial model is to be preferred by the scientific community (Abrassart, 2016a).

²⁵ This street levitation trick is often seen in European markets nowadays. It is different from levitation tricks in which the magician seems to be walking in the air, like the one done by Criss Angel for example.

²⁶ NT17 (GEPAN, 1983), chapter VIII.1.

the so-called fast (but not lightning-like) rise.²⁷ The witness then loses sight of the balloon that goes up and away until it is no longer visible in a bright blue sky.

Henri then succumbs to the influence of the ufological mythology of the flying object which acts on its environment with physical effects. He will thus look for a trace left by the object on his amaranths, of which only a few floral clusters remain, faded and parched. Yet all experienced gardeners know that this is quite normal and natural in autumn.²⁸

The witness told GEPAN: “*This is not the kind of thing that comes in your garden like a soccer ball.*” Yet a festive balloon (from a local event or a birthday party) of Mylar that would have come loose from its thread could very well be at the origin of this case that has become a modern classic in ufology. There are many other UAPs with a similar cause in the GEPAN database: one of them named “Lac d’Opale”²⁹ has only recently (2018) been reclassified from D (unexplained) to A (identified) as predicted in the book *Les OVNI du CNES: 30 Ans d’Études Officielles (1977-2007)* (D. Rossoni, É. Maillot, and É. Déguillaume, 2007, p. 163). Other cases explained by the Mylar hypothesis are the “Dora” case (investigated by the CNEGU),³⁰ the UAP A of Voreppes (38),³¹ the picture of the UAP of Chambley (54),³² and so on.

Conclusion

Being able to fly for several days, depending on local winds and turbulence, Mylar balloon hypotheses are obviously difficult to prove beyond any doubt, absent cases with clear photos or videos. Nevertheless, we think we have built a convincing cumulative argument that this explanation is correct for the Amaranth case. As with other, older, UFOs, the thorough research for information unknown to the public (here photos of the site and audio recordings of the witness) will have made it possible, more than 30 years after the fact, to support as strongly as feasibly possible a new explanatory hypothesis. It is true that the Mylar balloon hypothesis does not explain the famous detail of the sudden raising of 15 cm of grass under the UAP but a turbulence of wind or a brief whirlwind of air between the walls may have been enough to stir up a blade of grass. It is up to everyone to evaluate how much weight should be given to this in the final explanatory probabilistic balance.

If CNES was to reclassify this case as UAP type B “probably identified,” this action would probably generate lots of protests in the French UFO community, because of the status this case has acquired in the UFO mythology at this point. For this reason, this alleged UFO will probably remain a UAP D1 (strong strangeness and low consistency) even if it has a very likely explanation that should allow us to reclassify it.

This case reminded us of an important investigation rule: you only need one important item of information missing from a report to create a case that will become famous and will endure a

²⁷ Note there was no simulation of mental timing performed by GEPAN for these two phases.

²⁸ This is paradoxically what the witness gives to the GEPAN investigators as the reason for his unwanted uprooting of all amaranths and other plants: the replacement of withered and dried flowers at the end of the season.

²⁹ For more information about this case in the GEIPAN database “« LAC D’OPALE (LE) » ESTAIN (65) 18.07.1989”: <https://www.cnes-geipan.fr/index.php/fr/cas/1989-07-01179> (accessed Feb. 27, 2022).

³⁰ About the Dora case, see the interview of Francine Cordier on the *Scepticisme Scientifique* (French-speaking podcast), episode #82: <https://www.scepticisme-scientifique.com/episode-82-le-cas-dora/> (accessed Feb. 27, 2022).

³¹ For more information about this case in the GEIPAN database “VOREPPE (38) 06.09.1998”: <https://www.cnes-geipan.fr/fr/cas/1998-09-01754?> (accessed Feb. 27, 2022).

³² For more information about this case in the GEIPAN database “CHAMBLEY-BUSSIÈRES (54) 05.08.2007”: <https://www.cnes-geipan.fr/fr/cas/2007-08-02247> (accessed Feb. 27, 2022).

long time in the ufological literature. It also illustrates the fact that sometimes perceptual illusions can endure and transform in the witnesses' mind a mundane object into something very strange and mysterious.

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The Real Raël, UFO Contactee and the Last Prophet

Claude Maugé

Hypocrisy and deception have lasted enough.

Claude Vorilhon “Raël”¹

Abstract: Claude Vorilhon “Raël” is a French UFO contactee who, after his first meeting with an alien in 1973, founded an organization, the Raëlian Movement (later the Raëlian Religion) and developed a doctrine, Raëlism. They are devoted spreading the Messages he received from the extraterrestrials, the Elohim – mainly their head, Yahweh – but have greatly benefited the contactee and his staff. A careful reading of Vorilhon’s ten books reveals a huge number of anomalies of various kinds, several of which are deadly for Vorilhon’s credibility, all the more so as other sources can be devastating, too. The conclusion thus seems inescapable: he lied from the beginning and added lies to lies as time went by. The positions of three sociologists who studied from different viewpoints the reasons for Vorilhon’s success are presented.

Keywords: Contactees, Raël, Raëlism, Raëlian Movement, UFO hoaxes, Claude Vorilhon

Introduction: A Short Presentation of Vorilhon and Raëlism.

The following abbreviations are used below: V = Claude Vorilhon (also with his pseudonym “Raël”), E = Elohim = the extraterrestrials who created us, Y = Yahweh = head of the Elohim, who contacted V. V’s books are coded with the initial of the author and the number of the book, that is V-1, V-2, V-3, then R-4 to R-10.

All translations from the French are by the present writer. Because of space constraints, this contribution does not intend to be a detailed presentation of the history of V, of the various forms of the organization he founded, of several major problems in it,² or of the Raëlian doctrine.³ Basically, it is a little exploration of V’s books intended to give an answer to a simple question: *are V’s claims reliable?* Other sources are also used in order to have a background for several points or to give other examples. However, some key points about V and Raëlism (also written Raëlianism) are needed first for a better understanding of some elements.

V is born on December 13, 1946 from Colette, a young maiden (aged 15) from a rather notable family of Ambert (Puy-de-Dôme) and from an officially unknown man,⁴ a wealthy Alsatian Jewish businessman who had been a refugee in Ambert during WWII. Mainly raised by his aunt Thérèse and his grandmother, V has a rather difficult childhood, is put twice in boarding schools – where he discovers masturbation at 9, and later playing guitar. His father dies when he was 15, so that Colette receives no more money from him. V then decides to go to Paris where he has a difficult life as a street singer, then begins to have a modest success as “Claude Celler” and enters in the team of Lucien Morisse. But this man commits suicide a few years afterward, so that V again has

¹ *Les extra-terrestres m’ont emmené sur leur planète. Le 2ème message qu’ils m’ont donné.* Brantôme (France): L’Édition du Message, 1975, p. 151.

²For instance, with the way several dissenters were treated; the numerous high-ranking Raëlians who left the movement, among them Lisa and Sophie, one-time V’s spouses; or the financial opacity at one with V’s greed for money – including swindling his rich follower “Gérard” according to Jean-Denis Saint-Cyr (pp. 81-84, 89-90).

³A rather useful starting point is the articles “Raëlism,” “History of Raëlism” and “Raëlian beliefs and practices” on en.wikipedia.org.

⁴His name is Marcel Heimendinger (Péloquin p. 49).

a difficult period. He marries the nurse “Christine” in 1970. Then, as a fan of car races, he soon launches in Clermont-Ferrand his own magazine about car driving, *Autopop*, which allows them to live and him to test cars and to have some success in races. But in October 1973 the Yom Kippur War leads to a major oil crisis, so that severe measures are taken, including in France the banning of car races and rallies: as a consequence, *Autopop* soon has serious difficulties. At the end of 1973, during a dinner with much alcohol, two guests speak jokingly about UFOs in order to get much money, but the third man, V, takes the thing very seriously (Bisaillon pp. 51-55, Péloquin pp. 27-28). The fact that UFOs were fashionable in France in the seventies – including the notable 40-episode radio series by Jean-Claude Bourret on the *France-Inter* program during the first quarter of 1974 – was very possibly an encouragement for V. He writes, apparently very rapidly, the manuscript of his alleged first contact. TV host Jacques Chancel becomes aware of this: thus, V appears on March 13, 1974, on his very popular program *Le Grand Échiquier*⁵. The Raëlian machine is now on its way in France, and the first printing of V-1 is published in July 1974 – but the French UFO magazines were very skeptical about V’s story: the movement can attract people interested in UFOs, but not ufologists. Outside France, it will expand in Belgium and Switzerland, then in Québec and several other areas such as Italy, Africa, Japan, South Korea, and elsewhere.

The basic elements of the Raëlian doctrine were built in several steps. In *Le livre qui dit la vérité*, Y gives four “new ‘Commandments’” to V, two of which (“humanitarianism” and world government) can be connected to the first, geniocracy (V-1 pp. 132-134); Y insists about its importance in his second message for avoiding a nuclear cataclysm (V-2 pp. 53-54); and V devotes to it a large part of his third book (V-3). Nevertheless, he distances himself from it as soon as R-4 (pp. 40-41), rather forgets it for a while, and comes back to his political role as a prophet in 2001 (R-10 pp. 9, 197-198). He then invents in 2009 “*paradism*” which combines some of its traits with new technologies such as nanotechnologies and robotics. The fourth Commandment is the (double) mission devoted to V, that is to spread the Message given by V (of course with the later revelations) and to build an embassy for the coming of a delegation of the E (V-1 pp. 138-141). No date is given for that event; the year 2025 had been mentioned for a while (for instance Saint-Cyr pp. 186-187) but it was later turned into 2035 or possibly earlier if the Raëlian truth spreads rapidly enough (R-8 p. 315). Two major steps were the Sensual Meditation with R-5 in 1981, although V-2 had already hinted about it and about non-standard practices in summer camps; in any case, the liberated sexuality promoted by Raëlism is in line with the general trend of liberation of mores. As for human reproductive cloning, it began to be a real concern for V in 1997 after the birth of the sheep Dolly, even if, again, hints about cloning were formerly present. It was basically seen as a way to obtain “immortality,” as with the E. A company, *Clonaid*, was founded, but its mere existence and its alleged goals seem to have been problematic. As for the announcement on December 26, 2002, by Brigitte Boisselier (a chemist, Raëlian bishop, and head of Clonaid) of the birth of Eve, the first human cloned baby, it obtained huge media coverage. Its connection with Raëlism allowed V to claim that the Message had been now disseminated through the whole planet, so that this part of his mission was now accomplished, which seems very optimistic. But doubts arose rapidly, no evidence of the reality of the event was ever given, and the whole affair is now considered as a promotional hoax. (Except by Raëlians, even if they are very discreet about the

⁵The Great Chessboard.

subject. As for the Internet site of *Clonaid*, it is in 2022 in a state of suspended life since 2004 or so)⁶. The “Angels of Raël” will be mentioned below.

Summaries of Vorilhon/Raël’s books.

(See in References for more complete bibliographic data and translations into English.)

V-1. Claude Vorilhon “Raël,” *Le livre qui dit la vérité. J’ai rencontré un extraterrestre*, 1974 (two printings, in July and then November). V reports his six contacts of December 13 to 18, 1973, on the mountain Puy de la Vache (1974 editions) or Puy de Lassolas (later editions and titles) with an unnamed alien (Y) from an unspecified planet. Most of his revelations are a reinterpretation of many biblical episodes (mainly from the *Old Testament*) in extraterrestrial terms. The Elohim – a conventional name, not the proper name of their species (p. 148) – arrived 25,000 years ago as the Earth was completely under water, built the only continent, created life, and made it evolve until human beings. However, several aliens found that our intelligence could become a threat for them, and their hostile actions explain several biblical events. The mission of Jesus, a half-alien, was to spread the truth, and the Church continued it despite its errors, but today with the Aquarian age, its end is close. V’s mission is to convert mankind to the extraterrestrial truth, to make us adopt a better social and political system (“geniocracy”), to build an embassy for the E, and to prepare for their return. An organization, whose name is given by Y (see later), will help him in his task. As for Y, he is the President of the Council of the Elohim, he is 25,000 years old (his present body is the 25th), and he had managed the team of alien biologists who created terrestrial life.

V-2. Claude Vorilhon “Raël,” *Les extra-terrestres m’ont emmené sur leur planète. Le 2^{ème} message qu’ils m’ont donné*, 1975. V presents firstly his life before 1973⁷ and his early success as a contactee. After a UFO sighting at the Roc Plat near Brantôme, in the Périgord area, V has another contact there on October 7, 1975, where Y reveals his name and brings along V to E’s space base then, not to the E’s planet itself, but to the one where the 700 E and the 8,400 earthlings who were granted eternity live. V banquets with Y, Jesus, Moses, Elijah, Buddha, Mahomet, and other unnamed eminent people; has an unforgettable love night with six expert female robots; visits some installations; and has his brain greatly improved by a machine. Moreover, says Y, “from then on, we shall see through your eyes, we shall hear through your ears, and we shall speak through your mouth. We shall even be able to heal through your hands, as we already do in Lourdes” and other places (p. 84). And V learns various things. Particularly, he receives instructions for the life of humans (e.g., geniocracy, sensual education, importance of art and science; as for the Raélians, they are not allowed to judge the E nor V), learns that E’s computers watch permanently over us and at our death take at a distance a cell of our body so that we will be later tried (to harm V is a serious sin) – while the Raélians must have a part of the frontal bone taken. And V is named as the ambassador of the E, the Last Prophet for announcing the new era (later, the dates will be given with the style a.H., that is after Hiroshima), and the Guide of Guides who will lead us to the fulfillment of the golden age. Back on Earth, V will later receive many messages by telepathy and automatic writing.

⁶Several declarations by V could be interpreted as meaning that at a later stage he did not really take cloning as a serious matter, but rather as a publicity device; if so, it would be an insult to the people who had hoped to benefit from it.

⁷It seems basically accurate.

V-3. Claude Vorilhon, *La génocratie*, 1977. The name Raël is absent and the reader is unaware that the concept was allegedly given to V by Y. The book presents measures for entering the golden age: geniocracy, that is a government by geniuses (an “intellectual potential” of 110 is needed to be a voter, of 150 to be elected; collegiality; geographical pyramidal organization); fabrication of androids for doing all material tasks; suppression of armies; creation of centers for the fulfillment of body and mind, etc. An appeal to the world geniuses for the creation at Geneva of a Geniocratic World Government is launched; its first constitutive meeting took place on September 9, 1977.

R-4. Raël, *Accueillir les extra-terrestres. Ils ont créé l’humanité en laboratoire*, 1979. After the account of a UFO sighting by V and followers, V gives details in answer to questions by his readers or by journalists. Particularly, he had written V-3 after being asked by Raélians, but now he distances himself from geniocracy because “a political party has a low weight in front of the Elohim’s messages.” He also reveals two “details” from his visit to the alien planet, which had to be kept secret until now: in order to try V’s faith, he had been tempted – of course vainly – by the Elohim Satan, who was in league with Y; and this one is his true father, by artificial insemination: V is thus the half-brother of Jesus. Moreover, referring to the *Revelation* by John (who was a contactee), Y warns us that the “final nuclear apocalypse” is highly probable. A chapter presents explicitly that Raëlism is an atheistic religion. Six followers offer their testimonies and comments.

R-5. Raël, *La méditation sensuelle®. L’éveil de l’esprit par l’éveil du corps*, 1981. The Sensual Meditation is “the simplest and the most powerful” technique for self-fulfillment because it was given to us by our creators, the E. Its goal is a total awakening in five steps: becoming aware of our mediocrity, searching for information showing we can live otherwise, putting ourselves into question, reprogramming ourselves by an optimal use of our senses which link us to the infinite of which we are a tiny part, raising our consciousness level to that infinite for becoming “a being living permanently in the uttermost harmony.” These points and the content of six cassettes are developed, but one must also follow a training course or a meditation center because a guide is necessary for some activities. The importance of sexuality is stressed, because to make love is making it with the atoms which form us and with the galaxies we form...

R-6. Raël, *Le racisme religieux financé par le gouvernement socialiste. Halte à la violation des droits de l’homme en France*, 1992. France is from centuries ago a racist and intolerant country; and things were worsened by the socialist government.⁸ As well as by the various organizations which inundate the media with messages full of hatred directed against the so-called cults – actually the “New Religious or Philosophical Minorities.” Some examples of their evil actions are given. In order to counter their wrongdoings, V created in 1992 with other targeted organizations the FIREPHIM, *Fédération Internationale des Religions et Philosophies Minoritaires* (International Federation of Minority Religions and Philosophies). That said, V is right if we translate his basic “the cults are not dangerous” into “there are cults which are not dangerous.”

R-7. Raël. “*Vive le Québec libre!*”. *Faire du Québec la Suisse d’Amérique du Nord*, 1995. Now living in the province of Québec, V offers possible solutions to make it a self-governed prosperous

⁸Socialist François Mitterrand had been elected President in 1981.

country. Including suppressing income tax, creating its own currency, suppressing the army, and particularly suppressing bank secrecy, which will draw many funds.⁹

R-8. Raël, *Les messages que m'ont donnés les extra-terrestres. Ils sont ce que nous avons appelé "Dieu,"* 1998. Combined edition of V-1 and V-2, with some very minor modifications, except for two novelties. A message of December 13, 52 [a.H.] without anything fundamental except for Y's warning that the Covenant with Israel is close to its end. And a 1997 postscript explains that the E should arrive "in 38 years [2035], or even possibly earlier" if the Raëlian truth spreads rapidly.

R-9. Raël, *Oui au clonage humain. La vie éternelle grâce à la science*, 2001. V and Brigitte Boisselier, the chemist in charge of *Clonaid*, think that human reproductive cloning is essentially feasible within twenty years. And V incorporates it in a peculiar transhumanist vision: we shall very soon be able to transfer our personality and memory either in a computer, which will allow an eternal life in the virtual world but with all the pleasures of the real world, or in a biological clone, with possible moving from one world to another. As the E, we could thus live some 700 to 900 years (process of "elohimization"), while the physical eternity will be granted to worthy people. And V replies to the "incredibly stupid arguments" of the opponents to cloning. Also, he explains why we need MGOs; advocates a total liberty for the Internet; emphasizes the numerous benefits of nanotechnologies, of the imminent biological robots, and of the soon-to-come pleasure society; foretells totally autonomous houses; and so on.

R-10. Raël, *Le Maitraya. Extraits de son enseignement*, 2003. Twenty chapters offer large pieces of V's teachings; many subjects had been presented in V's previous books or during the summer courses. For instance, we find considerations about Love, happiness, peacefulness, spirituality, the necessity to give a meaning to one's life and to enjoy its delights, the need to be aware of our responsibilities, the need for nonviolence, the necessity to dismantle the UN, the unavoidable fact that science will change our lives, and so on. Our creators the E, their existence, teachings, or actions, are casually mentioned some thirty times. The title "Maitraya" (the correct spelling in French is Maitreya, as it is in English) appears only twice, on the front cover and the rear cover.

Exploring Vorilhon/Raël's Books (And Some Other Little Things)

A critical reading of V's books conveys a picture very different from the one V and the Raëlians aim to draw, that is the content of messages given to V by the extraterrestrial, firstly in the 1973 meetings on Earth, then during his cosmic voyage in 1975, and since that date by telepathic communications. Several ideas conveyed by V are perfectly well-advised, for instance when he writes that we must see the positive side of things or events, learn from our mistakes, admit that we have limits, that arts and sciences are important, or that overpopulation is a danger for the planet [conversely, he negates its global warming]. Such views obviously need no alien source, but extraterrestrials may of course share them with us. As anybody, V makes errors, but several are somewhat strange, all the more so since his brain had been very improved on the planet of the eternal (V-2 p. 84); worse, the person to blame can be Y, not V himself. For instance, when Y says that the Kabbalah is a book, "the book the closest to the truth" (V-1 pp. 120, 121). There are also views which are coherent by themselves but which are questionable for various reasons (extraterrestrial interpretation of the Bible, genocracy, eugenics, cloning); a huge number of

⁹This book was written as a support for the 1995 sovereignty referendum in Québec, as thanks for the status of a religious corporation granted to the Raëlian Church the previous year (Bissaillon, p. 90).

contradictions between books or even in the same book; scientific aberrations; and many signs of an unpleasant personality. Many problems with V's claims other than the ones presented below are exposed by several authors; the best synthesis of the whole story is the book by Maryse Péloquin.

As V-1 is mainly an interpretation of the *Old Testament* in extraterrestrial terms, we must look into its historical value. Since the 1970s, biblical archaeologists and scholars are building a new paradigm,¹⁰ of which the following phrases perfectly reflect the tone: "it is today evident that a great number of events in biblical history occurred neither in the place nor in the way they are reported. Far more, certain of the most famous episodes in the Bible clearly never occurred" (Finkelstein & Silberman, 2002, p. 16¹¹). This applies to probably all the episodes until the biblical Judges and to other later events. According to this new school, many books of the *Old Testament* were each rewritten at different periods according to the political and theological concerns of the time; that process was more or less continuous but had some key moments; particularly, persons or events were invented or shifted for some centuries. For instance, the Exodus and the Conquest of Canaan very probably never existed: their accounts have anachronisms, no archaeological traces were found, and the Hebrews were in fact native people of the area; as for Moses, he could have been invented in the VIIth century B.C. or was at the best inspired by a real person to whom imaginary events were attributed long after. Therefore, no UFO had to separate the waters of the Red Sea, to distribute the manna, to knock down the wall of Jericho (which had no wall), and so on. Moreover, if biblical "historical" events or persons are actually imaginary, what should we think about the "mythological" ones, such as the Creation, the offspring of the sons of God and the daughters of Man, the Flood and Noah's Ark, and the like? As for the name Elohim, it is really a plural (of Eloah) as V and others say, but it is most often used with an adjective or a verb in the singular form, and according to the context can mean god in general, a specific god (not necessarily the one of the Hebrews), gods, the spirit of a dead person, etc. (Bogaert et al., pp. 409-410). Now, if the above can be trusted, it has some obvious consequences about the value of V's claims.

Moreover, the "extraterrestrialization" of the Bible is not specific to V, and it had been shown he has "borrowed" many episodes from various authors, particularly Jean Sendy (Péloquin pp. 139-188; Bisaillon pp. 247-56). But these are not the only unrecognized borrowings by V: while he claims that the Sensual Meditation had been transmitted to him by the E, it was actually largely drawn from what Jean-Denis Saint-Cyr had presented to him (Péloquin pp. 292, 386-7; Saint-Cyr pp. 60-62); his teaching about fasting from Claire Labrie (Saint-Cyr pp. 61-62); and the idea that illness is "the immune system of mankind" [in R-9] from Daniel Chabot (Bisaillon p. 183).

Another major problem for V's credibility is his misuse of science. He claims that science is Raëlism's religion, but his own science is elementary, fantasized, science fictional, or plainly aberrant. Even his elementary science is frequently wrong. For instance: there are "male" and "female" spermatozoa (R-5 p. 59), "a spermatozoon possesses *all* the pieces of information which are needed in order to make a living being, including the color of his hair or eyes" (V-1 p. 74), "as you know now, the burn caused by an atomic explosion to nearby people kills them, making them resemble a salt statue" (ibid. p. 44). V's fictional science appears in various forms, from the education by injection of brain matter (ibid. p. 153) to future houses totally autonomous where our

¹⁰See for instance the books by Finkelstein and Römer and other contributors; the article "The Bible Unearthed" on en.wikipedia.org can be a good starting point.

¹¹My translation from the French translation.

food will come from a total recycling of our urine and feces (R-9 p. 144). V negates biological evolution, but on that matter he is obviously not the only one. He is however far more original when he claims that the planet of the E is situated at less than a light-year from the sun (V-1 p. 120), and according to “certain scientists belonging to our movement” the discrepancy with the astronomers’ knowledge that the closest star is at some four light-years is explained if the light of the star of the alien world would follow a highly curved path¹² (R-4 p. 25). As for the Earth totally covered by water 25,000 years ago (V-2 p. 67), it is another absurdity because it was the time of the last maximum of the Würm glaciation, so that the level of the oceans was obviously lower than today; moreover, the E created one only continent – by displacing the bottoms of the oceans with atomic bombs... (V-1 pp. 31-32, 35); and 22,000 years ago, they began to create the present earthly life¹³ (ibid. p. 111). Such dates are obviously far younger than our scientists say. As it would be nonsense to think that Y could have lied to V about the previous data, we must face a simple question: are our astronomers, cosmologists, physicists, geophysicists, geologists, paleontologists, and biologists wrong, or is V shamelessly lying?

Other kinds of lies are altered quotations or references (not specific to V...). For instance, Y and V say that Noah’s “ark arose above the ground (*Genesis* 7:17). You can note it is clearly said it arose above the ground, not above the waters” (V-1: 40); however, the (not quoted) following verse 18 adds: “[...] the ark went above the surface of the waters.” We have already seen some contradictions or inconsistencies in V’s books. But there are plenty of them in his writings, many rather minor but a lot of them much more significant. Only a sample can be given here. During their very first meeting, Y says to V that “we needed someone who lives in a country where new ideas are welcome and where it is possible to express them. France is the country where democracy is born and its image on the whole Earth is that of the country of liberty” (V-1 pp. 21-22); but in R-6 V’s discourse is totally reversed – because he had meanwhile left France, mainly for financial reasons, although the political and media climate concerning cults had also become somewhat hostile. There is nothing like the soul (V-2 p. 59; R-5 p. 47), but the soul is our DNA (R-5 p. 47, R-9 p. 123). Any cell of his/her body is enough to recreate physically and psychically any person (V-2 pp. 59, 78, 88; R-9 p. 123) – why thus a swab in the frontal bone for Raëlians, moreover precisely “at 33 mm above the middle of the axis joining both pupils,” as if all human beings had standardized measures (V-2 p. 114)? The machine of the planet of the eternal allows the E to heal via V (V-2 p. 84): so why is no example of a healing ever mentioned in V’s books¹⁴? Another important point of the first book also totally disappeared from the following ones: the fact that our mankind is in competition with two others elsewhere for receiving the scientific legacy of the E (V-1 pp. 99-101). Why?

There is “an absolute rule in the universe: the beings able to escape their planetary system are always peaceful” (V-2 p. 56); why then the refusal by the E to give V the position of their planet – which is not the same as the eternal’s one (see particularly V-2 p. 71, 139) while V confuses them from time to time (e.g. V-2 p. 144; R-9 p. 123) – because they fear that we could disturb them with

¹²According to general relativity, the light is indeed curved “near” a mass; but such a bending would here need a gigantic mass, so that its effects would be clearly visible, unless the solar system could even not exist.

¹³While former life, which gave much of the fossils, could have existed earlier but had been totally destroyed – even the aquatic beings? – (R-4 pp. 22-23).

¹⁴Nor in any Raëlian pieces of literature this author is aware of.

our aggressiveness¹⁵ (V-1 p. 22; R-4 p. 25). In “the keys,” that is “the major rules dictated by the Elohim” received by V via automatic writing, the E advocate “brutal and even very brutal sports [...] which are safety valves” as well as attending brutal shows (V-2 p. 134); and everybody is entitled to his/her difference (R-10 chapter 13); however, elsewhere V blames bodybuilding and violence in the stadiums with their “thousands of overexcited people” (R-10 pp. 136, 147). All the religious books must be censored in order to expel all of what prompts violence or hate and what is contrary to human rights or to the laws of democratic countries (ibid. p. 127). On the other side, the revisionists and the neo-Nazis for instance “may be entitled to express their ideas” because the freedom of speech must be total – in that respect, the freedom of the Internet is “sacred” [curious word for an atheistic religion] – (R-9 pp. 65-69). All these contradictions point to one conclusion: V is a forgetful weathercock; in many cases he does not remember what he said previously, in other numerous circumstances he feels the direction of the wind and speaks accordingly, and in some instances his changes seem to be deliberate provocations.¹⁶ Last but not least, another episode is a matter neither of a forgetting nor of circumstances but of a deliberate maneuver. In the 1974 printings of *Le livre qui dit la vérité*, Y orders V: “your movement you will name the MADECH, the *Mouvement pour l’Accueil des Elohim Créateurs de l’Humanité*” (Movement for the Welcome of the Elohim, Creators of Mankind); but in the 1978 and later editions, as well as in the other books, it is now: “your movement you will name the Raëlian Movement” (V-1, 1974 p. 141; 1978 p. 135). The reason for that change is very simple: the MADECH was an association coming under the French law of 1901 for nonprofit organizations and thus with several terms which could not allow V to manage it at his own will (basically, the management had to be democratic, not geniocentric). As it is impossible that V could have heard one sentence instead of the other, the conclusion is inescapable: V lied about that important point...

As for V’s doctrine for action, it could well be defined basically by three short successive commandments: “Believe and shut up!”; “Fuck and shut up!”; and “Sell, pay and shut up!”...

What Vorilhon Implicitly Says About Himself

Other key data which are important for assessing the truthfulness of V’s claims are what can be drawn from his personality, both from his own writings and from other sources; again, only a few indications are given here. Like anybody, V presents positive personality traits, and he is a charismatic man (see following Section) – but charisma can go with good or evil. Several lies and inconsistencies mentioned above are already useful signs, but they are far from the only ones. V often acts as a hypocrite who says one thing but practices its opposite. For instance, humility is “the first, the finest and highest quality of the human being” (R-10 p. 70): exactly what we find in the name Raël, allegedly meaning “God’s light” (V-1 p. 127), in the fact that “if Jesus and Buddha were here today they would be Raëlians” (R-10 p. 182), or in V’s various titles (Last Prophet, “prophet of the religion of religions,” “our Beloved Prophet,” Guide of Guides, His Holiness, Maitreya [*Maitraya* in V-10, *Maitreya* in several documents] and so on). V also claims that “another major quality” is compassion, towards people having a low level of consciousness and in forgiving others for “whatever they could have done” (R-10 pp. 40, 73, 195). Compassion indeed when he sees our ancestors as “primitives” – for instance “I’m always entertained when I hear people speaking admiringly about ancient civilizations such as the Greek, Roman or Egyptian ones. They were not civilizations but gatherings of barbarians” (R-9 p. 136) – as well as all our

¹⁵Which allows Péloquin to characterize the E as “paranoiac cowards” (p. 338-41).

¹⁶As for the Raëlian symbol: the Star of David with first a swastika, then a kind of spiral, and later again the swastika.

ordinary contemporaries – of whom each will appear as “a ‘Cro-Magnon’ of mankind” (ibid. p. 10).¹⁷ Or in some episodes reported by Saint-Cyr, for example when, in a car on a hot day, V electrically closes all the windows when one female passenger asks for a little air circulation – a “disgraceful gesture” by which V wanted to show he was the “absolute master” for Saint-Cyr (pp. 192-193). Jealousy must be banned (it’s why V doesn’t hesitate to take the female companion of some high-ranking Raélians for his own use – that last word is not usurped) and one must do all that is possible so that our companion is happy (R-5 pp. 66-67, 70). It’s probably for that reason that V broke the life of “Christine” and their two children (for instance, Péloquin pp. 32-33, 278, 286) but suffered an intense nervous breakdown when she decided to divorce in 1984. While the official version is that V disappeared at the time because of a “spiritual retreat,” Saint-Cyr, at the time V’s closest friend and right-hand man, reveals that he took refuge with him in Montréal, was unsure of what he had to choose as a profession, and even acknowledged that he had had no contact (Saint-Cyr, chapters 12-15, particularly pp. 106-107 for the confession) – after several months, V decided to resume his life as a contactee.¹⁸

Everybody is entitled to have his/her position about present-day sexual mores when it concerns fully consenting adults, so that the fact that V prefers young women with a youthful appearance is not by itself a problem (Péloquin p. 286; Saint-Cyr pp. 87-88). But what about the “Order of the Angels of Raël” and with pedophilia? V was instructed to found that “religious” [!] order by a message of 1997; basically, the angels are women chosen for their qualities, including religiosity, discipline, harmony, and internal and external beauty. When the E and the prophets will arrive, they will be their total servants; meanwhile, most can have a personal life, but their elite is devoted to the Prophet alone. Several Raélians were not really happy by the creation of such a harem.¹⁹ What about the legal status of the angels? Are they paid, are they insured, will they receive a retirement pension? (If not, they are basically slaves.) We don’t know. As for pedophilia, V is now clear that it is forbidden. But for many years it was not so, as proven by several declarations by him or by Raélians, for instance: the need to explain to children how they can take pleasure from their genitals (V-2 pp. 107, 108)²⁰; “the child is, for the adult, a favored sexual object” (*Apocalypse* N° 64, quoted by Salamolard & Rottet p. 62); or a woman explaining contentedly that her grandfather had taught her to masturbate herself when she was 3 or 4 (*Apocalypse* N° 63, ibid, p. 61). And what about the “cherubs,” “a group of very young girls” which V decided to create²¹ after the suggestion by the young daughter of an angel? “Little girls beginning to learn together the teachings of the Elohim and of Raël and to have lessons for preparing themselves to become angels,” it will be “brilliant” (Bisaillon pp. 273-276, quotation p. 274). It would be a total negation of what V had previously written about the education of children (V-2 pp. 101, 104). And while Raélians are of course not the Raélian Movement, several of them have been sentenced for pedophilia, including incest or rape (About pedophilia: Bisaillon, chapter 6; Péloquin pp. 287-290).

¹⁷Several mentions of that primitive state of most humans, sometimes with revealing expressions, appear from V-1 to R-10, particularly in R-9.

¹⁸Which later offers a splendid lie by him to “Héloïse” for explaining his absence: he had been kidnapped in France by the police, put in jail, questioned constantly, had fallen seriously ill and was close to death, was taken to the hospital, and operated on (Palmer 2004 p. 168).

¹⁹Which proves moreover that the E are sexist because they demand a totally female reception team.

²⁰This is not by itself an invitation to pedophilia, but several persons can understand it in this way. The three successive levels of the Swiss justice found a possible danger in such words (Salamolard & Rottet, chapter 4).

²¹No message from the E is apparently involved here.

Other indications about V are indirectly given by the ideology which is conveyed by geniocracy or V's views about cloning, as well as by some traits of the E themselves, such as the following. "To say that the man is imperfect is insulting our creators who created us as their image. The man is perfect [...];" and "nothing offends our creators more than seeing their creatures being ashamed at the appearance they were given" (V-2 pp. 107, 123). However, for V, the human being *is* his/her DNA. Necessary consequence of both facts, if taken as true: that DNA was created perfect, then it could not have deteriorated, which is obviously contradicted by malformations, diseases, mental imbalances, or evil people. The truth is actually that the E are evidently arrogant and egocentric persons (as is V), giving us commandments not unlike the ones of the (yet hated) Church (ibid. pp. 89-90), forbidding us to judge what they say and do because "the creature has no right to judge his creator" and those of V, their representative on Earth (ibid. pp. 148-9). But how have the E reacted when reading that their beloved creature the "human being is absolutely insignificant" (R-10 p. 43)?

Three Sociologists' Views About the Reasons for the Success of Vorilhon

After having presented V, his books, his doctrine (an "atheist creationism") and his movement which is characterized by its "permanent social creativity," Jean-Bruno Renard draws for that success some basic reasons [reformulated here] which can satisfy contradictory needs: Raëlism associates a need for spirituality with science and materialism by technologizing the supernatural; particularly, it replicates several features of the Roman Catholic Church in its structure and several other creeds, for instance in accepting Jesus but in modernizing Yahweh, so that it can be attractive for "disenchanted Catholics." It gives a special value to the person by integrating several contemporary views (liberated sexuality, personal development by the Sensual Meditation), by claiming that Raélians are intelligent people, and by identifying the adept as that "New Man" who is Raël (adapted from Renard).

Annie Cathelin was plunged into the Raëlian movement in 1997-1998 for preparing her doctoral dissertation in sociology. Her book (Cathelin) presents four basic components that can be mixed: the theoretical frame, the question of charisma – in general and as applied to V and Raëlism –, a detailed description of the movement and the doctrine, and a symbolic analysis of many aspects of Raëlism. The charisma is not the property of a person, but the result of an interaction of this person with his followers, particularly thanks to intermediaries skilled in various fields: the charismatic cannot exist without them, but without him they are nothing; and to be efficient, that charisma requires a resonance between the needs of the members (to give a meaning to their life), several traits of the modern world (here spirituality must come to a compromise with materialistic views) and the archetypal core (answers to basic questions such as our origin and destiny). Symbolically, V appears simultaneously as an overman, a man who passes us from one state of life to another, a visionary, a savior, a sacred person; he leads the Raélians toward a more satisfying life today and the golden age tomorrow, including immortality by cloning. But Cathelin shows that in the real Raëlian life, the whole process uses somewhat totalitarian practices and manipulates the followers, and that V's symbolic value doesn't prevent him from being a weathercock, a crook, and an impostor.

Susan J. Palmer is a Québécois sociologist of religions, particularly interested in New Religious Movements (NRMs) and who is perceived as a specialist about Raëlism by English-speaking

colleagues. Her *The New Heretics of France* (2011) is a rather virulent attack on the political, judicial and mediatic assaults against NRMs in the 1990s, with good and bad arguments; she compares these assaults to the Inquisition, which is largely exaggerated, while a far more accurate equivalent would be the satanic panic of the 80s in the United States, to which is devoted only half a page. Palmer feigns to think that these attacks were largely motivated by the unorthodox beliefs of the NRMs, while they actually arose from the fear of illegal actions; and she rejects mental manipulations among them by equating that concept with the brainwashing of U.S. prisoners of war in Korea (which was indeed later proved nonexistent).²² Several errors arise from Palmer's poor knowledge of the French language, social reality, and institutions²³; and particularly from the fact that she very rarely distances herself from the statements of leaders or members of the NRMs, either made specifically to her or in other contexts. All these elements apply to the chapter about the Raëlian Movement in the above book. And also, to *Alien Adored* (2004), a work very interesting for its large review of many aspects of Raëlism, particularly for many original data obtained by Palmer or by her students, but which is also seriously biased. She says clearly (however rather shyly) she is not a Raëlian nor believes the Messages (pp. [ix], 49), and it is evident she sometimes, but far from always, dissociates herself from Raëlian claims. While we can expect that a sociologist has a neutral, even if somewhat kindly, look about the group she studies, it appears that Palmer's neutrality is far from being already present. For instance, she appreciates having been well-received by the group for several years – no problem here –, but later is “not very happy” that the Raëlian meetings become more formal (p. 115), then “shocked, upset” to be excluded for some time from these meetings (p. 10) and “jealous” when a journalist says he could become “the Raelians’ kept historian” (p. 7): what an emotional involvement with her study object... And when the Baby Eve affair burst in the media, why these words to journalists?: “I said [to them] that the Raelians weren’t stupid enough to paint themselves into a corner; that Dr. Boisselier was a serious scientist; that it was true Raelians liked to court the media, but they had never told an outright lie”²⁴ (p. 12)?

With one exception, no part of that book is directly devoted to the reasons of success of V's business, but several passages offer useful indications. The most important is V's own person, who has made a very strong impression on Palmer: “his creativity seemed limitless”²⁵ (p. 3); he is “a sportsman,” “a philosopher,” “a scintillating performer,” “above all, a writer,” his “relationship with technology is shamanistic” (e.g. “his instant technological education” on the eternals’ planet), “he is a complex, unique individual, a Renaissance man who defies facile categorization,” “I approach Raël rather as a creative artist, a kind of religious genius” (pp. 45-49), etc. As for Raël-the-philosopher, Palmer has this immortal thought in her second book: “Raël is perceived²⁶ to be a great atheistic philosopher, descending in a direct line from Voltaire and Rousseau; like them, he demystifies the irrational beliefs, mythologies, and *obscurantisme* of the oppressive Catholic

²²But Palmer had previously stated that Raëlian lectures in France presented slides of crop circles with “a subtle suggestion [a mental manipulation, perhaps?] that this unexplained phenomenon could be a sign that the Elohim are supporting Raël’s mission” (2004 p. 64).

²³Only one example: the former *Renseignements généraux* (now a part of the *Direction centrale du Renseignement intérieur*) are for her “similar to the CIA,” whereas they only had an informational mission within France’s borders.

²⁴Really? But what with that non-solar planet less than one light-year from ours or the Earth totally covered by water 25,000 years ago?

²⁵Palmer does not seem to suspect it could apply to V's whole story.

²⁶By whom?

Church”²⁷ (2011, p. 97) [!]. Other reasons are the favorable context of the time toward interest in UFOs (2004 chapter 1); the ability of the Raélians for “manipulating the media” (pp. 67-70); the fulfillment of six of the eight conditions defined by Rodney Stark for the success of a NRM, for instance “cultural continuity” (from Judeo-Christianism) or a “favorable ecology” (choice of countries with religious freedom) (pp. 77-79); the millenarian aspects (pp. 92-96, 155-156); the atmosphere of the monthly meetings in Montréal which Palmer compares to Louis XIV’s court at Versailles [!] (p. 104); V’s charisma (pp. 113-114); the “Raëlian sexual effervescence” and the “Raélians’ anti-Catholic stance” (pp. 114-115); the main reasons given by the guides for having become Raélians, basically linked to a philosophy that makes a bridge between their childhood Catholic faith and their pragmatic and scientific views as adults (pp. 124-129); the use of external enemies (claims of assassination projects) for tightening up the ranks (pp. 160-161); the “science is our religion” motto (chapter 9); and the “technological utopianism” (pp. 199-203).

Conclusion

Some facts in particular (such as Y telling V to create the MADECH [the first name for the Raëlian Movement]; the original “mark appearing on the UFO and the man’s suit” which changes from the 1974 to the 2022 editions of V-1; or the impossible distance to the alien planet and the equally impossible date when the Earth was covered by water) and the whole story in general lead to a simple and short conclusion: the reliability of Vorilhon’s testimony as a UFO witness is zero, a zero as absolute as the temperature zero kelvin of the physicists... That Raélians believe in the content of V’s claims can be psychologically understandable – especially as Y says that those who believe in V, and thus in him, are “wise and intelligent” (V-1 p. 139) and that V “addresses the humans by requesting them to understand and not to believe” (R-4 p. 83). But for other people, the truth should be simple: Vorilhon lies, starting with the very beginning of his 1973 alleged contact. Period!

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²⁷No, he mystifies his flock by replacing them with his own versions.

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The MUFON-ian Candidate: The Gulf Breeze UFO Case as Political Contest

Craig R. Myers

*Such self-possession at command,
The byplay great, th' illusion grand;
In truth—'twas everything but true.¹*

Abstract: To best understand the Gulf Breeze phenomenon of the late 1980s and early 1990s one must view it not primarily as a UFO case, but a political contest. As when a hurricane strikes the Gulf Coast, many factors came together to create a perfect storm of social competition, including outside cultural forces. As with weather, pressure was a key factor: Ed Walters' and MUFON's high-profile promotion of his sightings and photos influenced people to join this "social creativity" advancement opportunity. Walters and his enablers benefitted from "rational ignorance" and the "economics of lying" in persuading others to join the In-Group of Believers and Witnesses, while dealing out punishment to the Out-Group of skeptics and debunkers. The result was an environment of high "expectations," "misinformation," and powerful "visual cues" that, according to Loftus et al, can taint eyewitness accounts.

Keywords: Gulf Breeze UFO, Ed Walters, MUFON, Debunkers



Figure 1: Ed Walters campaigning for his UFO photos on "Oprah" in September 1990.

Preamble

Let me start with a confession: "The Reliability of UFO Witness Testimony" is a topic beyond my experience and expertise. Before you skip on to another chapter, let me elaborate. I am a recovering newspaper reporter whose second career act has taken him into the strange new world of academia, exposing me to some theories and research relevant to this topic. So, while I still lack the training to assess eyewitness testimony in general, much less that involving the paranormal, I am an expert

¹ From poem published by Bristol Mercury in 1817. Imbler, Sabrina. "The English Servant Girl Who Pretended to Be an Exotic Island Princess." Atlas Obscura, May 9, 2019. <https://www.atlasobscura.com/articles/who-was-princess-caraboo-scam>

on the “Reliability of One Particular UFO Witness’s Testimony” and the impact it had on the social environment of an entire Florida Panhandle community in the late 1980s-1990s. I believe that narrowing our focus on the Ed Walters case study yields numerous valuable insights into the wider topic at hand.

The Certain Uncertainty Principle

UFO contact claimants have a built-in contradiction—they can be completely confident they saw something that they cannot identify. Consider this tale of a “debunker” turned UFO witness... Nearly 30 years ago, a friend and colleague at Florida’s *Pensacola News Journal* called me frantically exclaiming, “You have to see this! I’ve never seen anything like it! I’ll pick you up.” It was the proverbial dark and stormy night, a deluge once again dousing that moist part of the world. Minutes later, I was in his car zig-zagging through that great old port city following strange shape-shifting blobs of light as they moved back and forth, round and round, across the night sky seemingly in or behind the clouds. “Turn right here! Turn left here!” I shouted as the navigator. The amorphous lights were moving fast, faster than any aircraft, disappearing briefly before popping out again to continue their dazzling dance. After what seemed like hours, we noticed a pattern to the circulating lights and some faint trails below them. Estimating the center of the light pattern, we extrapolated it downward to a highway north of town. There, we discovered the source of the show—a car dealership using giant rotating spotlights to draw attention to a sale. The spotlights reflected along the bottom of the clouds like flashlight beams traveling along a hanging sheet, changing shape as they moved. But for those few hours I—the reporter who helped crack the Gulf Breeze UFO case—could not grasp what I was seeing. I recount this not to belittle UFO sighting claimants, but to illustrate my point: I can reliably recount my actions that night, but if we had not sussed out what we were seeing, our eyewitness account would have culminated in pure speculation.

Loftus on Eyewitness Acquisition

The work of Elizabeth Loftus and colleagues on “false memories” and “imagination inflation” raises serious questions about general eyewitness accuracy. In one famous study, Loftus et al showed participants altered Disney World “Remember the Magic” ads describing a wonderful day in the theme park from a child’s perspective. A statistically significant percentage of participants recalled encountering characters that could not have been there at the time:

For example, 16% of people claimed that they shook hands with Bugs (Bunny) after receiving the false Bugs ad; 7% said they remembered meeting Ariel, a character that had not yet been introduced, after seeing an ad suggesting all children meet her at the park. Neither character would have been at the park during the participants’ childhood... imagination inflation occurred, where people became more confident that the ad-suggested event had happened to them when they were children. (1)

It stands to reason that retaining a memory over a long period of time can be a challenge. Surprisingly, however, Loftus says the breakdown often occurs not in *retention* but in the first stage of the witnessing process—*acquisition*: “(E)ven though an event is bright enough, loud enough, and close enough, and even though attention is being paid, we can still find significant errors in a witness’s recollection of the event.” (2) Loftus et al document other powerful influences including stress and fear. But there are three more I find relevant to the Gulf Breeze saga: “expectations” created by a peer group or interviewer; the “misinformation effect” in which a

person's recollection can be significantly altered after exposure to misleading information about the event; and most significantly "visual cues" such as photos and other images. I would not attempt to apply these principles to any specific sighting, but I believe all three converged in space and time in Gulf Breeze to create an environment that tainted eyewitness accounts.

Gulf Breeze Case as Political Campaign

To truly understand the Gulf Breeze Sightings, you must view it not primarily as a UFO case but as a political campaign. Walters' claim that he took 38 photos in 20 encounters from November 11, 1987, to May 1, 1988, sparked arguably the most hotly contested, highest profile ufological clash in U.S. history. The following key can help you understand the political nature of this case:

- **The Candidate**—Ed Walters as an ambitious community member and active promoter of his photos and the wider cultural phenomenon of UFO contact.
- **The Campaign**—Walters' and his supporters' intentional effort to obtain "votes," defined as belief in the issue of UFO contact and a government-Debunker cover-up.
- **The Supporting Party**—MUFON as a growing national organization with local affiliates that actively endorsed Walters' case and helped him attack opponents.
- **The Opposition Party**—The informal national network of Debunkers and local skeptics like the mayor and police chief.
- **The Scandal**—The Styrofoam UFO model found in Walters' former house and Tommy Smith's hoaxing testimony, and subsequent damage control by Walters and MUFON.
- **The Election**—The 1990 MUFON convention where support for Walters was confirmed, followed by Ed's effort to convert that into real votes in his run for City Council.

The Candidate

Even before his "sightings," Ed showed a desire for social advancement as a community leader. He helped plan a scavenger hunt as part of the city's 25th anniversary. He dabbled in public service as a member of the Gulf Breeze Planning Board and would later seek a City Council seat. But in 1987 when he submitted blurry photos of stereotypical spaceships from a 1950s B-grade sci-fi movie to the local paper, even he may have been surprised at the tsunami that was unleashed. How could a local homebuilder spark such an explosion of support and attention in this period just before the digital age? Part of the answer is Walters was a smart, charismatic, convincing, tireless, aggressive, and media-savvy claimant. I concur with former Gulf Breeze Mayor Ed Gray's summary in a 1990 episode of "Unsolved Mysteries":

Ed Walters is extremely intelligent, smarter than I am, I'm sure. He managed to create a story and keep the story fed and keep it going for years now...The photographs of Ed Walters are a hoax created for the purpose of starting the UFO as a topic of interest, and ultimately became a way for him to make a great deal of money off a publication. (3)

But with apologies to the Beach Boys, Walters also was able to "Catch a Wave" of cultural interest in UFOs and distrust in government in the 1980s-1990s. This was reflected in books such as Whitley Strieber's *Communion* and *Transformation*, and Budd Hopkins' *Intruders* (Hopkins would write the introduction to Walters' book). Later, a new TV network's flagship show argued "The Truth is Out There" and is being covered up by the Government. "The X-Files" debuted in 1993 and the Gulf Breeze case would be referenced in two episodes—the 1993 episode "Fallen Angel" and 1994 episode "E.B.E." In the latter episode, FBI agents Fox Mulder and Dana Scully

have the following exchange over anonymously provided UFO photos, illustrating this cultural zeitgeist:

MULDER: "This is the best photographic evidence I have ever seen. When I first saw the Gulf Breeze photos, I knew they were a hoax but this . . . this is the quality of evidence the government has amassed for decades at the highest classified levels . . ."
SCULLY: "Mulder, this photograph is a fake."²

The political context also is key. The movement that sprang up from the sandy grassroots of Northwest Florida was a strange mixture of conservative and liberal, which allowed it to attract members from both camps in an area with a huge Navy and Air Force presence. It featured a nebulous New Age belief (per Streiber and Hopkins) that these contacts were part of mankind's evolution to a higher plain of existence. That appealed to liberals who were not traditionally religious. It also featured a distrust and suspicion of the federal government embodied by the GOP's political ascendance, which appealed to conservatives—many of whom were traditionally religious. As Walters told "Unsolved Mysteries": "this is a very conservative town, and I am a very conservative guy. . . I didn't want to be known as the builder who saw UFOs." (3) This from a man portraying himself on a national TV show, demonstrating that far from being the reluctant contactee, Walters was arguably the most aggressive and engaged UFO witness ever. Starting in 1987, he was a happy warrior who loved the media attention, the debate with Debunkers, the battle for "votes" in the form of belief in UFO sightings—his in particular. Variations on these quotes from *The Gulf Breeze Sightings* became his "stump speech" on national TV, local news interviews, or live events called Skywatches:

No longer can I look at the night sky and disregard the possibilities of intelligent life somewhere in the heavens...My character has been assaulted and that I cannot fully forgive or forget...The more than 100 other witnesses have been steadfast in proclaiming what they saw. We have experienced an encounter of spectacular proportions...The personal stigma I carry in revealing the true story of these emotional events becomes less and less important when compared with the reality of the UFO—proof positive. (4, p. 265)

Ed vs. the Evidence

While Walters' meteoric ascension is impressive, his survival as a supported UFO contactee is perhaps even more so. A cursory search of ufological media will reveal this. News coverage from 2017, the 30th anniversary of his Polaroid shots heard 'round the world, found continued support for Ed, albeit somewhat Nixonian or Clintonian as the damaged leader who still inspired loyalty. In keeping with our theme, the reliability of this singular *witness* should have long ago been universally rejected with Walters confessing in disgrace, offering an apology for all the time, ink, paper, and videotape wasted on this debate, and offering refunds for anyone who purchased his book. Let us review the well-documented evidence that this was a hoax, with some running commentary regarding efforts to discount it. Before he became a UFO photographer in 1987, Walters had a well-known penchant—acknowledged yet discounted by his supporters—for playing practical jokes using the same or similar old Polaroid camera, most famously using double exposure to cause the image of a "ghost" or "demon" to show up behind subjects. In 1990, as Walters was garnering fame and a small fortune for photographs of spaceships in the skies of Gulf

² "E.B.E." *The X-Files* (with David Duchovny and Gillian Anderson). FOX, Feb. 18, 1994.

Breeze, I discovered that a model Styrofoam spaceship (see Figure 2) had been found in the attic of Walters' former home, where he lived when he claimed these encounters.



Figure 2. The model found at a prior residence of Ed Walters.

No one tipped me off that a model had been found, or encouraged me to go to Ed's former home and talk to its new residents. It was old-fashioned follow-the-trail investigative reporting. This is a key point, because it debunks claims by Walters and his supporters that I was part of a Government-Debunker cabal to find (or even plant) the false flag model to debunk the Gulf Breeze case. For such a setup to work, it could not be left to chance. Robert Menzer, the homeowner who found the model in his attic, had no interest in announcing it: "When I uncovered the model, I didn't think much about it. It was just a curiosity that it was there. I was not aware at that time of the significance attached to a model of a UFO."⁽³⁾

The model had a midsection of paper cut from house plans, upon which was written in Walters' distinct handwriting the dimensions of a house. Walters admitted the plans and handwriting were his, but claimed they were recovered from his trash and used to make the "fake fake" model. The debate over whether a house plan with those dimensions existed at the time of the model's discovery is a red herring—Ed had indeed produced house plans with those dimensions *before* the model was found, according to city records that I personally inspected. When I inspected them, I discovered someone had torn the corner off the thick drafting paper where the dimensions were written. A city official told me Walters had been there just a short time before I arrived to review those plans. The dimensions were confirmed to be the same as inside the model. (5, pp. 133-134) I brought the model back to our newspaper offices and worked with photographers to recreate double exposure photos of the type Ed became famous for taking with his Polaroid (see Figure 3).



Figure 3. Left: author's recreation of picture using the model found. Right: original picture by Ed Walters.

The argument by Walters and supporters that the model did not look exactly the UFOs in his photos is akin to a counterfeiter claiming, after a forged \$20 bill is discovered in his home, that it is irrelevant because Andrew Jackson's hair looks different on it than on other \$20 bills he circulated in the community.

Later in 1990, I personally interviewed and wrote the story of a compelling *eyewitness*—a well-spoken, conscientious young man named Tommy Smith. He detailed on the record, and at great cost to his reputation, how he helped Ed fake UFO photos using the double exposure process. According to Smith, in January 1988 Walters gave him six faked photos to take to the Gulf Breeze Sentinel newspaper to kick off the escapade. Smith told “Unsolved Mysteries” that he had second thoughts and declined: “Two main reasons I didn’t go through with it was because I was lying to my folks basically and also the fact that I just felt like it was fraud.” Smith also addressed the argument that the model wasn’t an exact replica of Walters’ photo subject: “He had a spot on the floor where he could kneel or sit and photograph the model every single time. I was sitting in the bedroom and he went into the closet and pulled one model out and said ‘no, wrong one’ and stuck it back up and pulled another one out.” (3) By early 1990, what Ed started as a practical joke had morphed into a way to make some money (\$200,000 just for writing his book). Next, it would snowball into a quasi-political movement and a novel method of social advancement.

Social Identity Theory

In 1979, British psychologists Henri Tajfel and John Turner introduced Social Identity Theory (SIT) to explain how social groups advance:

The theory suggests that the group we identify with (such as family, football club, nation) is important to our self-esteem and sense of identity. By a process of social categorisation, we decide which social group people belong to: “us” or “them” (the in-group or out-group). This is followed by social identification where we adopt the identity of a group and adjust our behaviour; accordingly, and social comparison where we compare our groups with others. Enhancing the traits of the in-group (“we’re great”) and denigrating out-groups (“they’re bad”) ensure that the social comparison comes out favourably for our own group. According to the social identity theory the in-group will look for negative aspects and characterisations of the out-group to boost their own self-image. (6)

According to SIT, a group may pursue one of three strategies for advancement:

- **Social mobility** in which they emulate the values and practices of the higher-status group with the goal of gaining admission into elite clubs.
- **Social competition** in which groups try to equal or surpass the dominant group in the area on which its claims to superior status rest.
- **Social creativity** in which they reframe a negative attribute as positive or stress achievement in a different domain.

Whether by intention or by instinct Walters chose this third approach, seeking advancement and prestige in a different dimension by promoting new norms or a new developmental model (no pun intended). As eyewitness accounts grew exponentially it reversed the stereotypical societal dynamics of UFO sightings cases: Believers and Witnesses became the promoted and protected In-Group, while Naysayers and Debunkers were punished as the Out-Group. That also reflected

an element of social competition in which “group members may seek positive distinctiveness through direct competition with the out-group. They may try to reverse the relative positions of the in-group and the out-group on salient dimensions.” (7)

Princess Caraboo

An example of social creativity occurred in 1817, when a common British woman passed herself off for several months in Gloucestershire, England, as the mysterious “Princess Caraboo.” She dressed the part of Asian royalty, danced exotically, shot a bow and arrow, and even made up a spoken and written language. Soon a Portuguese sailor, Manuel Eynesso, claimed to understand and translated her story: She had swum ashore after escaping from pirates who kidnapped her from a country called Javasus, where she prayed to a god named “Allah-Tallah.” She held court in the town like real royalty, visited by a steady stream of reporters, painters, physiognomists, craniologists, and linguists including “a certain Dr. Wilkinson, who identified her language using Edmund Fry’s *Pantographia*.” (8) The ruse lasted only a few months:

By now word had spread of the attractive foreign stranger and curious members of society came to visit the woman now known as Caraboo. The stranger was being treated like a visiting head of state...It transpired that the self-styled princess was really Mary Willcocks, who came from Witheridge in Devon. She was no princess, but the daughter of a cobbler. Apparently, she adopted the disguise in the hope that it would make her more interesting.

For a social creativity strategy to succeed, the proposed criteria for status must be recognized as valid and worthwhile by the dominant group. In Walters’ case the new criteria was to become one of the Believers who, although oppressed by the Government and Debunkers, were on a path toward Transformation. An amazing number of contact claimants sprang forth ranging from average folks to prominent community members such as a chemical engineer, medical examiner, and city council member, many claiming to be eyewitnesses not just of a UFO, but of *the* UFO.

The Campaign

Walters’ skills as the MUFON-ian candidate were on full display in 1990 during his appearance on “The Oprah Winfrey Show” after the model UFO had been found and Smith’s whistleblowing reported. (9) Ed was at his best, simultaneously playing victim and attacker while giving his stump speech and debating a Debunker. He methodically built a force field of support around him in concentric circles, starting locally and extending it nationwide and even worldwide. Asked by Oprah to explain his story, he began with the campaign issue: “Two and a half years ago I saw what I saw, and I know what I saw was a UFO. People came forward by droves, dozens and scores of people saying yes that’s exactly what we saw. ... I support completely the idea that the government is covering this up.” He called on Congress to hold hearings to force the military to “tell us what they are doing—“What’s going on? It is our right as Americans to know what we are funding our government to do.” Skeptic Phil Klass was on the show, gamely attempting to debate the model and Smith’s devastating testimony, but Walters was in control. When Klass quickly outlined Ed’s outlandish claims of blue beams, images of nude women, and abduction, Walters used President George H.W. Bush’s famous line to elicit applause and cheers from the audience: “Read my lips, I have never claimed I have been abducted.” When a woman in the audience asked about the model, Walters turned it into an opportunity to ratchet up the campaign rhetoric:

If you think this model looks anything like the photographs of what people around Gulf Breeze are seeing, then you need glasses...the prank that was pulled by putting a model in a house that I used to live in...was an effort by whomever to discredit the sightings. And it shows me that there is a very definite coverup going on trying to make this phenomenon go away. And any big case that happens around the United States will be ridiculed and I have heard these same stories, unsubstantiated stories about models and witnesses coming forward over and over and there is no truth to them.

When Klass pointed out that the mayor called the story a hoax and Walters had two criminal convictions, including forgery, Ed drew more applause with his impassioned closing speech:

This type of ridicule is the same thing the government does to virtually every high-profile UFO case. They will dig into someone's background...and try to convince people across the whole United States "don't worry, don't worry there's nothing there. This guy's a criminal, he didn't really see anything," "ooh they'll plant a model in an old house he lived in." "Oh, don't worry it's just a model." Hundreds of people in Gulf Breeze are testifying to seeing this thing. Now if you want to believe I am a faker or trickster, then you also have to somehow or another convince all these other people who are seeing the same thing that they are also hoaxsters and tricksters. (9)

Like all campaigns, the goal of this one was to obtain "votes," which for my purpose are defined as belief in Ed's story as part of a wider phenomenon of UFO contact. In his multimedia onslaught, he was not simply sharing his experience, but building his base. The last line of Walters' book invites other eyewitnesses to send him their stories and photos.

'Rational Ignorance'

These supporting eyewitness accounts illustrate how Walters' success as the MUFON-ian candidate depended in large part on the principle of "rational ignorance."

The expected benefit associated with a political lie comes from its success in securing votes ... the rational vote-seeking politician will lie to the point where the marginal expected benefits are equated with the marginal expected cost. Predictably, politicians will lie more extensively to the rationally ignorant than to the well-informed voters. (10)

The term rational ignorance is not a pejorative, it simply means that voters (i.e., supporters) remain intentionally ignorant about some issues because the cost of acquiring information about them is greater than the benefits to be derived from the information. One analogy is someone whose washing machine breaks down—he could study and learn how to repair it himself. But the average person will opt to pay an expert to fix it because the cost of acquiring the information is comparatively too high. So, it is more rational to remain ignorant. In the Walters case, many witnesses could have invested the time and intellectual effort needed to figure out what was really going on, but instead opted to simply declare themselves believers. "The theory of rational ignorance explains a lot of what otherwise might appear to be baffling human behavior. ... The busier the voter, the more rational it is to remain politically ignorant." (11)

The Supporting Party

"You had politicians reporting seeing objects. There were so many sightings that you have to account for, unless you believe there was massive collusion on the part of the residents of Gulf Breeze and Pensacola," Walters' partner Bruce Maccabee said in 2017. (12) But such a massive, organized conspiracy is not necessary at all. In the movie "The Lady Vanishes," the protagonist

tries to solve the mysterious disappearance of a friend from a train only to have numerous passengers deny the woman ever even existed. Asked to explain why so many people would lie, the hero says: “I can’t, unless one person is lying and the others are backing her up.”³

In Gulf Breeze, a few people were outright lying while others were backing them up for various reasons. Some of these backers were Duane Cook, editor of the local newspaper that started the phenomenon by publishing Walters’ photos, and Gulf Breeze City Council member Brenda Pollack. The main backing, however, came from the Mutual UFO Network aka MUFON, which now boasts more than 4,000 members worldwide. MUFON would stick with Ed through thick and thin, not only providing just enough pseudo-scientific photographic psychobabble to give him a veneer of credibility—as the visiting academics did for Princess Caraboo—but also leading the attack on critics. In 1988, after only a cursory investigation, Ed officially became the MUFON-ian candidate when International Director Walter H. Andrus Jr. issued this endorsement:

This is one of the most amazing UFO cases that I have investigated in the past 30 years in the United States . . . The witness/photographer was evaluated as a sincere, truthful and successful businessman who could destroy his personal reputation in the community if he was perpetrating a hoax. No evidence was disclosed that this Gulf Breeze citizen was involved in anything deceptive. On the contrary, he has impressed each of the investigators by his sincerity in sharing very openly his experience. (5, p. 43)

This group of paranormal investigators became full partners in writing Walters’ book *The Gulf Breeze Sightings*. Andrus elaborated on his endorsement by explaining “the intelligence behind the UFOs implanted a tiny communication device within Ed’s head whereby they could communicate by voice or humming sound to alert him to the proximity of their craft. ... Ed was conceivably programmed to take the photographs for public distribution as part of the entities’ ultimate plan to make themselves gradually known to the public and world governments.” (4, p. 346). Florida MUFON Director Don Ware said “these sightings are proof of alien visitation” based on his own version of Occam’s Razor:

One might ask why one couple in Gulf Breeze has been allowed eighteen photographic sessions. The most obvious reason to me is the aliens want people to see the photographs. I hope this causes more people to give serious thought to the idea that we, as an intelligent species, are not alone in the universe. (4, p. 347)

Maccabee wrote a full chapter in which he raised the possibility that the photos were double exposures, then dismissed that in part because Ed denied any knowledge of such a technique, in part for photographic reasons, and in large part because “no one had ever seen Ed with UFO models. Nor had anyone seen such models or evidence of such models at Ed’s house.” (4, p. 288) Yet in 1990 after such a model was found, Maccabee said “There is very little evidence that Ed hoaxed these pictures.” (3) There was by then much “evidence” that Ed had hoaxed them, as outlined above, so perhaps the word Maccabee was looking for was “proof.” Five years ago, Maccabee called the *model*, not Walters’ photos, a “hoax squared.” (12) The Walters-MUFON relationship would *mutually* benefit both sides in building supporters, members, and customers.

³ “The Lady Vanishes.” Directed by Diarmuid Lawrence (with Tuppance Middleton and Tom Hughes). BBC, Aug. 18, 2013.

The Economics of Lying

“Ed will never, ever admit to it being a fraud, even if it goes to court, even if he goes to jail, no matter what happens he’ll never admit it’s a fraud. ...Ed always told me that he would go to the grave, that he would never admit to it being fake,” Smith said. (3) I understand his point, but there was no crime committed, and suing Ed for fraud would have been futile because of the First Amendment and because anyone who buys such a book knows there is a good likelihood it is not true. Walters could no more be successfully sued for his lie than I could be for saying he lied. Perhaps it was considered a harmless lie because after all, are not all good practical jokes lies? Later it would become a way to make money then ultimately to drive a socio-political movement. Economist and political theorist Gordon Tullock wrote in *The Economics of Lying* about the strategy of “a political propagandist, a man or organization which aims to change public opinion in order to obtain some political objective.” To do so, the organization must generalize its argument to appeal to that wider circle of supporters:

*Books on rhetoric normally urge placing great emphasis on the strong points of your argument while skimming over the weak. The pressure group may be well advised to do just the opposite if the weak argument will appeal to large numbers of people who are only vaguely interested in the subject.*⁴

In political contests, lying can be part of that process and while it carries some risks it has a quantifiable payoff. Tullock said there are two challenges involved in lying, “the likelihood that the lie will be believed and the probability it will persuade the hearer to take the desired action.”

The lie will always be part of an effort to persuade some person or persons to take some action or to refrain from some action. It is a persuasive effort, and its benefit will come from the success of the persuasion.

If someone is predisposed to lying, the choice to do so becomes quite literally a calculated decision. Tullock developed equations to illustrate this principle, the simplest one being $B1 - C1 = P1$. In this equation, $B1$ =Anticipated Benefits from lying; $C1$ =Anticipated Costs of lying; and $P1$ =Payoff. Tullock listed several costs of lying, including a guilty conscience, formal punishment, and injury to reputation. “The conscience pain will be felt simply as a result of lying; the other two costs will be felt only if the lie is unsuccessful, i.e., if it is not believed.”

But outside of certain professional or legal situations, punishments for lying are “socially determined” and therefore have no tangible consequences. Lying about a UFO sighting is something for which society has not determined formal punishment. Tullock says:

With the voters largely inattentive, they normally only learn things about the campaign that the candidates force on them by public relations techniques. With most of the voter’s information coming from the output of the candidates, and with most of the voters and sources of opinion already committed before the campaign starts, a repetition of a false charge may be very effective. The decision of whether or not to lie will depend largely on an estimate of the efficiency of the public relations organizations of the two candidates.

⁴ All quotes from Tullock on this page are from “The Economics of Lying.” *The Economics of Politics*. Ingram, 2005, pp. 259-269.

Thus, driven by the lie and its backers, the Gulf Breeze debate early on became such a PR competition between groups for and against Ed—and MUFON had the early advantage.

The Opposition Party

In response to the coordinated efforts of Walters and MUFON, a loosely connected coalition of critics and skeptics coalesced to contest their claims. They were collectively dubbed the Debunkers and “consisted of men like the easy-going California piano-tuner Zan Overall, the sarcastic party-crasher Phil Klass, and the methodical mad scientist Dr. Willy Smith.” (5) This group fought skirmishes by fax and phone—debating emulsion streaks, cloud movement, asymmetrical windows, and such topics. Before social media, their platform was as sources for news stories and a newsletter called “Saucer Smear” published by “Editor and Still Supreme Commander,” Jim Moseley (see Figure 4).



Figure 4. Cartoon from *Saucer Smear* showing the level of debate.

Some ufology groups were part of this Opposition coalition, primarily the Center for UFO Studies (CUFOS), which declared the photos “most probably a hoax” early on.

As for me, I did not set out to debunk this story. The tone of my early coverage was of an interesting local phenomenon perfect for fun feature stories. But it was Overall’s documentation of Walters’ Ghost-Demon party photo games in a 44-page report that helped me to see that perhaps there was an intentional effort under way by Walters and his backers to cash in on the case, both in terms of money and attention. That changed the news angle of my coverage. From a journalistic perspective, as the MUFON-ian candidate’s campaign brought him more national and international attention and continued economic benefit, Walters became a “limited purpose public figure” and therefore fair game for more critical public service reporting. The key is that Walters chose the spotlight, it was not thrust upon him (and by that I do not mean the famous “blue beam” he claimed lifted him off the ground). Walters had strong local political opposition, too, most notably Mayor Gray and Police Chief Jerry Brown, who objected to their quiet, family friendly community being used by Walters and these outsiders to promote their cause. Gray and Brown were instrumental in

locating Smith and convincing him to tell his story. Despite all this, Walters' campaign continued to gain steam as support for Ed's sightings, and UFOs in general, grew exponentially and filled the newspaper pages and airwaves with "I saw something too" type stories.

The Scandal

One of the biggest ways in which the Gulf Breeze UFO debate was a political contest was in the Watergate-style Styrofoam model scandal and the Believers' efforts to manage it. A decade later, this analogy would become even more clear with the Clinton-Lewinsky scandal. Clinton hung on much as Walters did—damaged in reputation, discredited in some corners, but still viable as a leader because of how invested his party, the media, and supporters were in his success. MUFON and Ed would seek to discredit Smith just as Clinton's "war room" did the women who accused him of different kinds of close encounters. The hypocritical scenario created was much like when those who argue "Women must be believed" about sexual harassment change their tune when the accused is one of theirs. In this case, UFO contact claimants who cried foul over how they are doubted and dismissed attacked a young man who was an eyewitness himself—to UFO models being used by Walters to make double-exposure photographs.⁵

Walters started it on "Unsolved Mysteries" with the following strange comparison:

Tommy's statements don't check out. No matter how nicely he says them and how sincerely he says them, they don't check out. I have been studied for two and a half years, every word that I have uttered has been examined and cross-examined. Why is it that we are suddenly expected to believe without any examination every word this young man says just because he happens to be a naysayer?
(3)

MUFON joined Walters in coming after Smith's credibility, with Andrus simply calling him a liar. They questioned why Smith waited so long to come forward, labeled him a religious zealot who wanted to discredit all UFO sightings, or my favorite from Walters again:

Back in January 1988 Tommy Smith, the young man, actually photographed a UFO. He was quite upset when he told his father, or his father was quite upset when his son told him, and said that the angels were coming and a very, very religious-oriented conversation which scared the young man who then later told his father it was just a trick. (5, p. 131)

Another MUFONer scoffed that Smith "states he did witness some UFO hoaxing sessions, but none of the photos from these sessions were ever published." (13) Thus did the Gulf Breeze case "jump the shark" with the spectacle of persecuted, mistreated UFO believers and contact claimants doing just that to Smith over his inconvenient eyewitness account.

The Election

The campaign, debate, and damage control continued all the way to the MUFON convention held in Pensacola in summer 1990 (that location having been planned a while in advance). At a press conference, Andrus said "we stand by Ed Walters 100 percent." The culmination of the event had all the feel of an acceptance speech at a political party's nominating convention, as Ed and Frances sat on centerstage, the audience hushed, the lights turned low, with UFO photos projected on a

⁵ Efforts to reach Tommy Smith for comments for this paper were unsuccessful. A family member contacted by email said Smith did not want to relive the episode.

screen behind them and repeated their claim of truthfulness and accusation that “everything is being twisted by the debunkers.”

But there were some Machiavellian machinations at work behind the scenes too: Ed knew that by rejecting him, MUFON would be rejecting its own credibility and judgment... Renew your support for me, or I will drag you down too, Ed seemed to whisper. In order to save itself, MUFON had to accept Ed. (5, pp. 148-149)

Later that year there was more drama as two local MUFON members assigned to reopen the Walters case, Rex and Carol Salisbury, courageously concluded that perhaps it was a hoax after all. They were denounced by Andrus and replaced with a new investigator, who came to the predetermined conclusion that Ed must still be believed. (13) The case culminated with a twist as Walters truly became a political candidate in fall of 1990, entering the race for Gulf Breeze City Council. At a debate he claimed, “I sit here before you not as a UFO witness, but as a qualified candidate. UFOs have nothing to do with city business.” (5, p. 157) The city had no districts, so the top four vote-getters out of a pool of nine would win terms on the City Council. On election night, Ed finished dead last, ninth out of nine candidates, picking up just 373 votes out of nearly 8,400 cast. The rational ignorance that helped Walters succeed in the campaign for hearts and minds of Gulf Breeze did not translate into actual votes at the ballot box. Because Tullock writes: “If individuals go to the polls, they vote their interest, as best such interest is perceived to be through the fog of rational ignorance, stupidity, persuasion, and lies.” The MUFON-ian candidate was not representing the interests of Gulf Breeze.

What About the Others?

Robert Stack, host of the “Unsolved Mysteries” episode in 1990, asked, “Even with the Ed Walters’ controversy put aside a tantalizing mystery remains—what are we to think of the hundreds of eyewitness accounts of Gulf Breeze residents who insist they have seen the same UFOs that were photographed by Ed Walters? (3) Putting aside whether “hundreds” literally claimed to see the Walters-type UFO there were many who did, making it a fair question. First, returning to Loftus, a visual cue that influences eyewitness accounts does not have to be physically present at the event, but can be projected back in memory upon viewing a cue. In addition, for those seeking difficult-to-identify objects in the sky Gulf Breeze is the place to be. It sits at the center of one of the busiest air spaces on earth: To the west is Pensacola NAS and a regional airport and to the east Eglin Air Force Base and Hurlburt Field, a massive testing area for rockets, missiles, drones, and experimental aircraft. Aircraft flying at night do not appear how you might expect.

The “Major Object”

But to truly answer that question there is more eyewitness testimony to consider. Pollak, the pro-Walters councilwoman, told “Unsolved Mysteries”: “What I saw was certainly not a small model made of paper plates or any other small model. It was a major object.” (3) She took a photo of that object the first time in 1988. (See Figure 5.)



Figure 5. Pollack's first UFO photograph of object she claimed matched Ed Walters' pictures.

Far from being a Walters-type UFO, it shows the pathway of a lighted object moving wildly in the Gulf breezes in circular patterns like a tethered balloon or kite. Then in 1990, just in time for the second "Unsolved Mysteries" episode on the Gulf Breeze case, Pollak would photograph this object again in a sighting with Walters. Under increased scrutiny over the model and Smith's testimony, Ed had urgently called several MUFON members and local supporters to his house, including Pollak, to watch a UFO in the sky. Pollak said she was only able to get the photo after the light went out and in the background she "could see a round silhouette of an object or a craft of some kind that was unlit." (3) All of the participants portrayed themselves in the episode including Walters, who said, "It was wonderful to be with a crowd of people and stand there and watch this object, because it's no longer that you're on your own." What was this major object? In 1990, an anonymous source who I consider very credible recounted to me how one day he visited Walters' home. When no one came to the door, he located Ed in the garage working on a larger UFO-shaped object as if working on his riding lawnmower. This eyewitness made a drawing of this object he witnessed up close and in broad daylight in Ed's garage (see Figure 6).

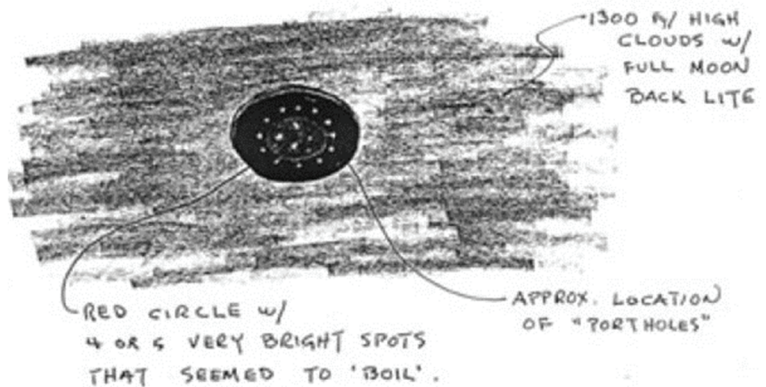
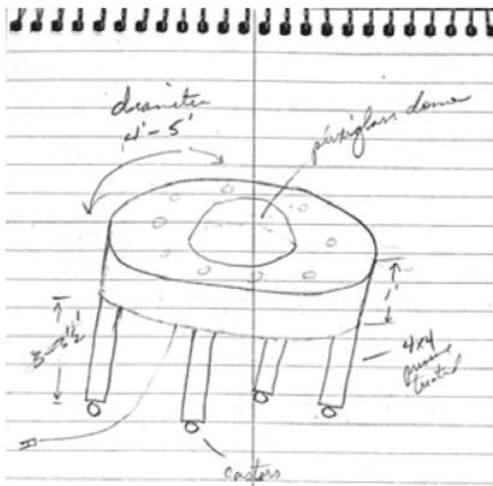


Figure 6. Left, drawing of an object a witness saw Walters working on. Right: drawing Walters made of UFO he claimed he and others saw and photographed in January 1990.

Conclusion: A Perfect Storm

On June 10, 1990, the day the Pensacola News Journal published my Gulf Breeze UFO expose, it also ran a column by my Editor Ken Fortenberry that provided some good balance. In it, he told the story of growing up as the son of a pilot involved in one of most famous UFO cases in history—the Nash-Fortenberry sightings. Ken started it by writing, “I believe in UFOS,” and concluded it with: “There are many fine people, particularly in the Gulf Breeze area, who are seeing something. We are not trying to say they aren’t. Our stories simply focus on one man—Ed Walters—and his encounters with UFOs in Gulf Breeze.” (14) I agree that was true of our professional work as journalists. For this paper, I will add that the discredited reliability of this one *witness* has a wider impact on UFO witness reliability. The aggressive and relentless PR and damage control campaign waged by Walters and MUFON became a perfect storm. In the cultural context of growing UFO interest, it created an environment that pressured people to choose between the In-Group of UFO Believers, and the Out-Group of Debunkers. In addition, it provided all three of the Loftus-documented influences—expectations, misinformation, and visual cues. Thus did a social and political hurricane hit Gulf Breeze, Florida, from 1987-1990. At its center was a carefully calculated and strongly supported lie spinning out powerful bands of influence that left UFO eyewitness reliability devastated in its path.

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The Pascagoula Abduction: A Case of Hypnagogia?

Joe Nickell

Abstract: Among reports of extraterrestrial encounters, the 1973 claim of two Mississippi men to have been taken aboard a flying saucer remains controversial. This case study reveals what was really behind the encounter: a hypnagogic experience.

Keywords: Abduction, Hypnagogia, Pascagoula, Witness testimony, UFOs, Case studies

Preface

Charles Hickson, the chief claimant in the Pascagoula, Mississippi, UFO abduction case, died of a heart attack on September 9, 2011, at the age of eighty. Until his death he maintained the truth of his alien encounter—part of the UFO “flap” of 1973.¹ It has remained (after the Betty and Barney Hill case of 1961) “the second most famous UFO-abduction case in history,” according to UFO historian Jerome Clark.²

Very Close Encounter

Hickson, then forty-two, was fishing from an old pier on the Pascagoula River with a friend, nineteen-year-old Calvin Parker Jr., on the night of October 11, 1973. Hickson claimed they heard a “zipping” sound and encountered a glowing object—an elongated UFO—hovering above the ground. Three robot-like aliens exited from the craft; although they were gray humanoids just over 153 cm tall, they were otherwise of a type not reported before or since³: each entity lacked a neck, exhibited only slits for eyes and mouth, had a nose and ears that were sharply pointed protrusions, and possessed clawed hands. The legs were joined, pedestal-like, and the entity glided (see Figure 1).

The two men claimed they were taken aboard the spacecraft, where they were examined, after which they were returned to their fishing site. Unnerved, they sat in a car to regain their composure (with Hickson, at least, drinking whiskey), then reported their experience to the sheriff.

Although the UFO reported by the men had apparently not been seen by people on the heavily traveled nearby highway,⁴ there had been other UFO sightings in the area, including on the night in question. The UFOs were variously described—some saw a helicopter-like object; one person reported a supposed “experiment” from an air force base; and so on.^{5,6}

¹ Curtis Peebles. 1995. *Watch the Skies! A Chronicle of the Flying Saucer Myth*. New York: Berkley Books, pp. 241–45.

² Jerome Clark. 1998. *The UFO Encyclopedia*, vol. 2. Detroit, Michigan: Omnigraphics, p. 714.

³ Joe Nickell. 2011. *Tracking the Man-Beasts*. Amherst, New York: Prometheus Books: “Alien Likeness” (with pictorial chart, “Alien Time Line”), pp. 184–86.

⁴ Kevin D. Randle. 2001. “Pascagoula (Mississippi) abduction.” In Story, Ronald D. 2001. *The Encyclopedia of Extraterrestrial Encounters*. New York: New American Library, pp. 423–24.

⁵ Jerome Clark, p. 715.

⁶ Ralph Blum, with Judy Blum. 1974. *Beyond Earth: Man’s Contact with UFOs*. New York: Bantam Books, pp. 14–19.

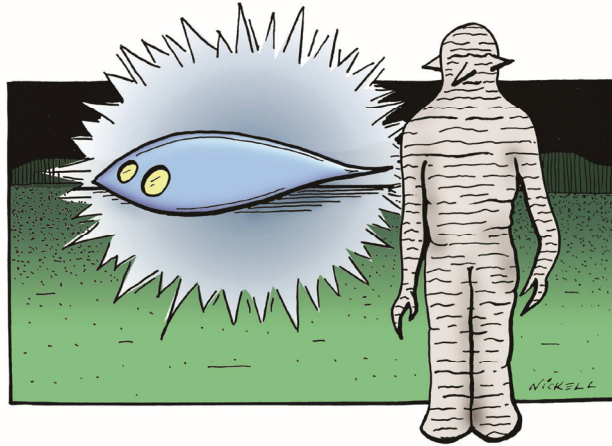


Figure 1. Recreation of Hickson and Parker's encounter, based on several sketches made from their descriptions.
(Drawing by Joe Nickell)

Controversy

The pair's veracity was accepted by UFO believers J. Allen Hynek of the Center for UFO Studies (CUFOS) and James Harder of the Aerial Phenomena Research Organization (APRO), both of whom rushed to interview the "abductees." Harder tried unsuccessfully to hypnotize the men⁷ but did conclude they had experienced "an extraterrestrial phenomena [*sic*]." ⁸ Hynek believed the pair had at least had "a very real, frightening experience."⁹ The sheriff's department also felt the men were telling the truth, and Hickson requested and passed a lie-detector test arranged by the agent with whom the men had signed a contract to promote their story. Parker suffered a breakdown and was briefly hospitalized.¹⁰

The men's fantastic report drew much skepticism. Famed UFO skeptic Philip J. Klass noted discrepancies in Hickson's account (for instance, once referring to the creatures as having a "hole" for a mouth but later calling it a "slit"). Klass also pointed out that the lie-detector test was conducted by an "inexperienced" polygraph operator and that Hickson refused to take another administered by an expert police examiner. Based on other evidence—including the fact that Hickson had once been fired for improperly obtaining money from employees under his supervision—Klass concluded the case was a hoax.^{11,12}

A Solution

So which was it: a genuine alien abduction or a hoax? Or is that a false dichotomy? In reviewing the case, I thought there might be another possibility: the two men, who might have been drinking before the incident (as Hickson admitted he was after), might have dozed off in any

⁷ Jerome Clark, p. 717.

⁸ The men were later hypnotized by another (see Hickson, Charles, and William Mendez. 1983. *UFO Contact at Pascagoula*. Tucson, Arizona: Wendelle C. Stevens).

⁹ Ralph Blum, with Judy Blum, pp. 24–25.

¹⁰ Jerome Clark, pp. 714–17.

¹¹ Philip J. Klass. (1974) 1976. *UFOs Explained*. New York: Vintage Books, pp. 347–69.

¹² Philip J. Klass. 1989. *UFO Abductions: A Dangerous Game*, updated edition. Buffalo, New York: Prometheus Books, pp. 18–19.

case. Hickson could then have entered a hypnagogic (“waking dream”) state, a trancelike condition between waking and sleeping in which some people experience hallucinations, often with bizarre imagery, including strange beings (aliens, ghosts, etc.). This state may be accompanied by what is called “sleep paralysis” (the body’s inability to move due to still being in the sleep mode). In fact, Hickson not only reported the bizarre imagery but also said that the aliens “paralyzed” him before carrying him aboard the UFO in what sounds like a hypnagogic fantasy.

The imagery might even have been triggered by Hickson actually sighting something—almost anything—that, while he was in the waking-dream state, appeared to be a “UFO.” During a recorded interview with Sheriff Fred Diamond,¹³ Hickson described the UFO as “a blue light,” adding: “It circled a bit.” He emphasized it was blue, saying, “And you think you *dreamin’* about something like that, you know” (original emphasis). Hickson also reported that it made “a little buzzin’ sound—nnnnnnnnnnnn, nnnnnnnnnnn.”¹⁴ Bright lights and odd noises can also be part of the waking-dream experience, as can the sense of floating.¹⁵ Hickson stated, “I couldn’t resist [the extraterrestrials], I just floated—felt no sensation, no pain.”¹⁶ These phenomena, coupled with the paralysis and fantastic imagery, corroborate the diagnosis of a hypnagogic experience.

Of additional corroborative value are other factors, including Hickson’s description of the aliens as speaking inside his head,¹⁷ because a feature of hypnagogia is the sense of perceiving “with whole consciousness.” This explains the bright lights and clarity of his experiences, since hypnagogic visions often seem particularly illuminated, vivid, and detailed.¹⁸

But if Hickson had a hypnagogic experience, what about Parker? Actually, he need not have been in such a state himself because, as he told officers, he had *passed out* at the beginning of the incident and failed to regain consciousness until it was over.¹⁹ Later he “remembered” bits and pieces of the alleged encounter. This would be consistent with an example of *folie à deux* (a French expression, the “folly of two”) in which a percipient convinces another of some alleged occurrence (as by the power of suggestion, the force of a dominant personality, or the like) or the other person simply acquiesces for whatever reason. (Young Parker’s position was vulnerable: he had recently joined the shipyard where Hickson worked and was residing with the Hicksons.) It would have been significant if Parker had himself been in a hypnagogic state, since “suggestibility is high during this state.”²⁰ Interestingly, when the two men were left alone in a room at the sheriff’s office, where they were secretly tape recorded,²¹ they did not make incriminating statements as they might have if perpetrating a hoax but acted more like people

¹³ Ralph Blum, with Judy Blum, pp. 30–36.

¹⁴ Ibid., p. 31.

¹⁵ Andreas Mavromatis. 1987. *Hypnagogia: The Unique State of Consciousness between Wakefulness and Sleep*. New York: Routledge & Kegan Paul, p. 148.

¹⁶ Ralph Blum, with Judy Blum, p. 32.

¹⁷ Jerome Clark, p. 715.

¹⁸ Andreas Mavromatis, pp. 14–52, 148.

¹⁹ United Press International. 1973. Wire-service story, “Creatures” (Pascagoula, Mississippi, October 12). In Blum, Ralph, with Judy Blum, pp. 9–11.

²⁰ Robert M. Goldenson. 1970. *The Encyclopedia of Human Behavior: Psychology, Psychiatry, and Mental Health*. New York: Doubleday, vol. I, p. 574.

²¹ Jerome Clark. 1998. *The UFO Encyclopedia*, vol. 2. Detroit, Michigan: Omnigraphics, p. 716.

comparing notes to see if they were in agreement with each other.

Still, some of Hickson's behavior is questionable. For example, he kept adding to his story. He claimed on a television show a month later that the interior lights of the UFO had been so intense as to cause eye injury lasting for three days, although an extensive hospital examination the day after the incident had shown no such eye damage.²² But this is a familiar story: even accounts of the truest occurrences gain distortions and embellishments over time, so why should Hickson's story be any different? Ufologist Kevin D. Randle²³ insists Hickson's alterations "went beyond that." Specifically, he says, "These changes seemed to be in response to criticisms and appeared to be an attempt to smooth out rough spots in the story." But to me that just signals Hickson's defensiveness brought on by people ridiculing him—not proof of initial hoaxing.

When all the facts are weighed, the preponderance of evidence appears not only to favor the hypothesis involving the hypnagogic state but to provide corroboration as well. The realization may not benefit the late Charles Hickson, but it could help others who hear of supposed alien abductions to rest in peace.

Acknowledgments: I am grateful to Major James McGaha, CFI Libraries Director Tim Binga, and Julia Lavarney, managing editor of the *Skeptical Inquirer*, for help with this article.

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Misinterpretations of Fireball Swarms from Satellite Reentries

James Oberg

Abstract: Explaining “mother ship UFO” reports becomes credible by showing how such misperceptions commonly have occurred all over the world from one particular stimulus that is thoroughly documented – satellite reentries – and could ALSO occur from similar visual stimuli such as aircraft formation lights or shallow-entry bolide meteors.

Keywords: Satellite reentry, Meteor, Witness misperception

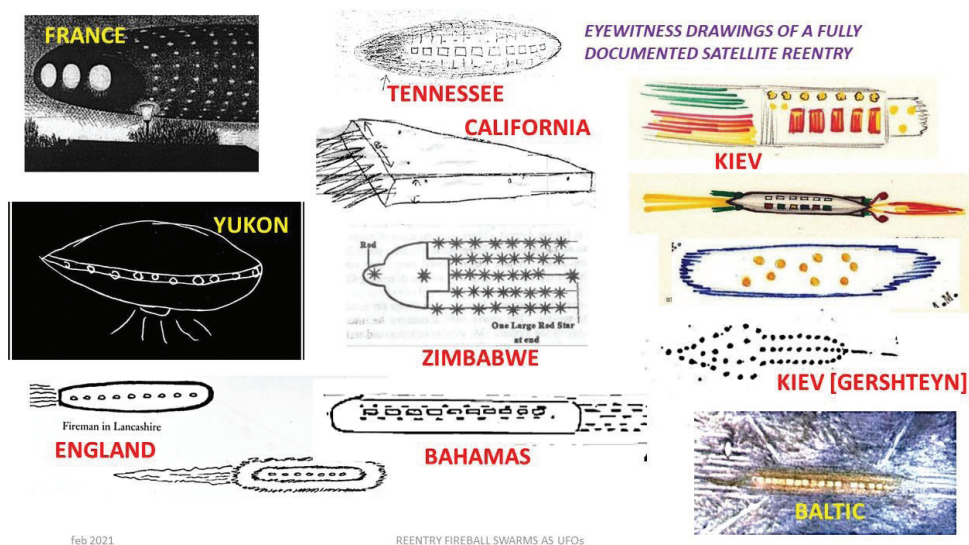
Introduction

Space exploration has provided insights into secrets of nature that have baffled people for millennia. New vantage points, and new detection instruments, and well-designed exploratory projects, have together been fruitful all across the Earth, into and under the oceans, and now up and out across the Solar System.

But for one compelling spectacular mystery in the skies of Earth, the spaceflight-provided unveiling of one hidden mystery-explanation was entirely unintentional – and still widely overlooked by the still-baffled world public.

Humans have seen wondrous things in the sky throughout history, and even earlier. Gradually, curiosity led to comprehension of the mechanisms of weather, of motion and illumination of the moon and of bodies now called “planets,” and optics such as rainbows and sun dogs, and of flight [by other organisms and eventually by humans as well].

In recent decades, all across the planet, people have been reporting particularly unusual flying objects – the “UFO” phenomenon. While most can reasonably be explained as misidentifications of prosaic phenomena, one particular type of report has defied persuasive solution – the large-structured light-mounted “mother ship” configuration that crosses the entire sky horizon to horizon.



Until now – and it showed up accidentally, thanks to spaceflight. A totally new perceptual phenomenon has begun appearing in the past six decades of the “Space Age.” These are satellite atmospheric reentries leading to fiery fragmentation of the objects. While skimming the thin upper atmosphere, they traverse the sky on near-horizontal flight paths, the flaming pieces often remaining clustered together.

Real-life Events

Recently, in October 2020 over Hawaii and in March 2021 over the NW USA, two additional spectacular night-time satellite reentries occurred randomly. Their location over a population well equipped with pocket cams and well-connected with the internet, created a torrent of reports of exactly the same nature as previous similar events. But they were much better documented, much more accessible for follow-up investigation, and consequently much more fruitful in providing definitive characteristics of the perceptual phenomenon.

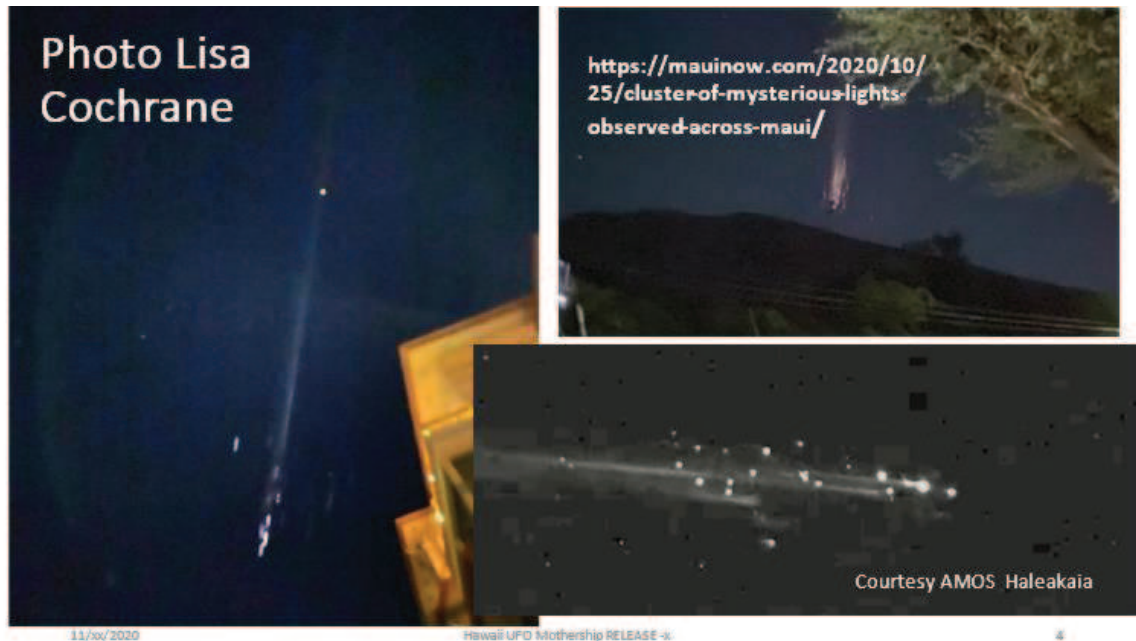
The consistency and magnitude of common eyewitness misinterpretations continues to be amazing and sobering. Documenting the scope of these processes is a fundamental challenge to assessing adequately the accuracy of any future witness descriptions of startling sky manifestations of any origin – natural events, human technology [missile/space activities, aircraft, weapons systems, etc.], or potentially truly anomalous phenomena highly deserving of serious attention. But it’s a literally heaven-sent opportunity.

This report will follow a two-stage approach, at first practical and then speculatively theoretical. First, to focus on events, it will examine the two recent fireball swarms to document in what ways many witnesses misinterpreted it. More importantly, it will assess WHY such misinterpretations were so common, largely based on mass public misunderstanding of basic features of space flight and especially atmospheric reentry.

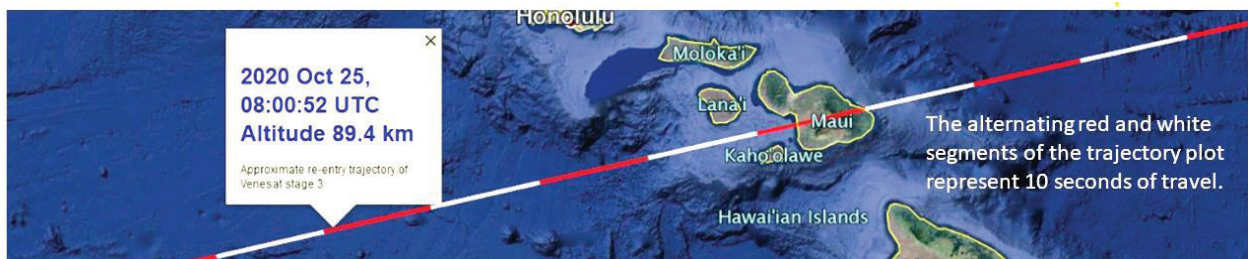
Secondly, it will examine the theoretical basis for explaining WHY such misinterpretations have been – and still are – so widespread. The witness reaction reaffirms the widespread and age-old human propensity to “Rorschach” pre-favored explanations onto once-in-a-lifetime ambiguous aerial apparitions, demonstrating creative “confirmation bias” in the sky. There are profoundly important evolutionary and cultural factors that encourage such a pattern.

Lastly, we will examine lessons of these still-poorly-appreciated perceptual processes that can allow researchers of future similar apparitions [and not only reentry fireball swarms but other technological sources of a grouping of bright lights moving in formation across the night sky]. These can be applied both to future events, and by historians, to many still-puzzling past events of a similar nature.

The source of the Hawaii fireball swarm was the reentry of the third stage of the Chinese CZ-3B booster [2008-055B] launched October 29, 2008, delivering Venezuela’s “Venesat-1” communications satellite. The payload remains in orbit, but this booster stage’s orbit slowly decayed, and a reentry warning had been issued. The actual reentry was about an hour past the pre-reentry prediction interval, not unusual.



The predicted ground track for the propagated forward motion to the time of the observed fireball swarm precisely put the path right over Maui, moving almost due west to east, as actually observed. Any surviving debris impact would have been into the Pacific Ocean east of Hawaii.



On the ground, this is what the startled witnesses were perceiving. For example, Kimberly Lani [posted Nov 10, 2020, then deleted] had written: "I saw it, over the open Molokai sky. We don't have much light at night, so it was very clear viewing. It was a massive thing, coming in from south/west direction, headed northeast. I saw what looked like flaming lights in the front, almost like a point. The lights all together, resembled a triangular aircraft shape. The mid-section had 2 bands of lights in a rhythmic circular pattern. It was quite massive, since I don't know how far away it was....my best description was saying it was as big as a small neighbor Hawaiian island. Like Lanai. That's just what I could relate it to. There was no noise around it, that we could hear. I swear, I saw what looked like an energetic behind it. Not yellow in flame but maybe like a smoky-type coloration. Definitely something there from the rear, in contrast to the night sky."

Other eyewitnesses appended comments on videos that had been posted on youtube.com:

* Nunna Urbiznez: "The way the lights twinkle and *appear to bank left doesn't look like individual objects*. It looks like *one solid object*."

* Almut Behnke: “I saw it too, it flew *right over my head*, the lights were different colors, and it flew from sea towards land... not like they say rocket booster disintegrating over the water... *this thing was a real huge spaceship*... and it flew *lower* than on the picture here... and there was a slight sound and *a kind of tail* behind it like steam...how would a rocket booster after 12 years *have stable lights still functioning*? And this craft was *not falling at all* it was *maneuvering*...and it had a certain energy to it also.”

* 808Man: “I took my dog to the yard in my Nuuanu home and looked up to see what looked like *a blimp-size object* moving from Honolulu Airport to the North-Northeast *covered in lights*.”

* Eric Weiss: “I saw it too. It flew *directly over head* of me as well. They are definitely not telling the truth after seeing it with my own eyes. I was so bummed that astronomer came out and tried to speculate... *if he would have seen it, he wouldn't be saying it was a rocket booster*. Thing was *so low, silent, slow and had adjacent lights all traveling at the same speed*, blinking as opposed to burning off. I have no idea as to what it was, but it sure isn't what they are telling us.”

The fireball swarm was also recorded on several all-sky survey cameras, but the best identifying observation was made from Waikoloa Scenic Point on the big island. There, the keen-eyed observer Claire Bajo noticed the fireball swarm pass left-to-right directly across Polaris [the North Star], thus giving an elevation angle of 20 degrees. Since observers on Maui 100 miles (160 km) away also saw it, but passing directly overhead flying WSW to ENE, simple trigonometry gives an altitude of ~40 miles (64 km). This is exactly the level that typical satellite fragments are brightest on their long shallow descent. And that ground path was exactly the one pre-calculated for the demising satellite rocket.

Similarly, over Oregon: a Falcon 9 second stage from the 2021-017 Starlink launch [March 4] failed to safely deorbit as planned, so it decayed naturally at approximately 04:00 UT on 26 March 2021 <https://www.zarya.info/2021#017> NORAD #47782 (2021-017BN) listed it as “Falcon 9 RB.”

Here's how many people perceived it:

* Robert Lovdahl: “A slow moving object with man-made lights, Cigar shaped, Rounded on each end. With what looked like windows on it.”

* Love Elaine: “This ship went right over me. I had full vision of the lights, beams, and metal like structure that surrounded the lights.”

* Tammy Taylor: “I live here in Brookings Oregon....it looks like a Huge ship.”

* Mz Dawn: “To me it looked like a train in the sky ... It was absolutely massive.”

* Unexplained Tragedies: “In my personal opinion it's one big craft, but who knows.”

* Sofia Bulg: “How the rocket goes falling horizontally? Lierssssss.”

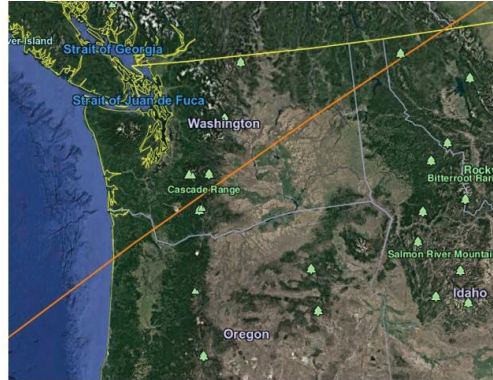
* Elena Caddell: “Since when does anything falling from the sky travel horizontally?”

* Peaceloveforever88: “How can you justify all this *lights* are *grouped* together *parallelly*? and why all *lights* have the same *speed*?”

Those witnesses [and other readers of their accounts] who rejected the satellite reentry explanation did so for very specific reasons that are susceptible to analysis. The two main reasons, which this report will address in detail, are that the object flew level across the sky under obviously controlled flight, and that the appearance was consistent with a structured physical object with mounted lights of some sort, blocking background stars and looking unlike any previously known rocket or

satellite.

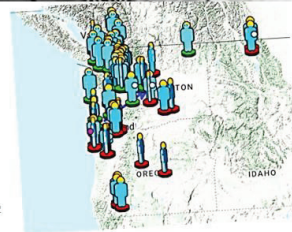
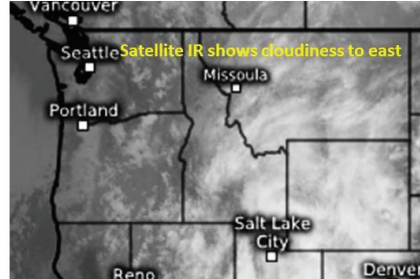
Ground track, cloud cover, and ground reports



<https://twitter.com/planet4589/status/1375301028514500615/photo/1>

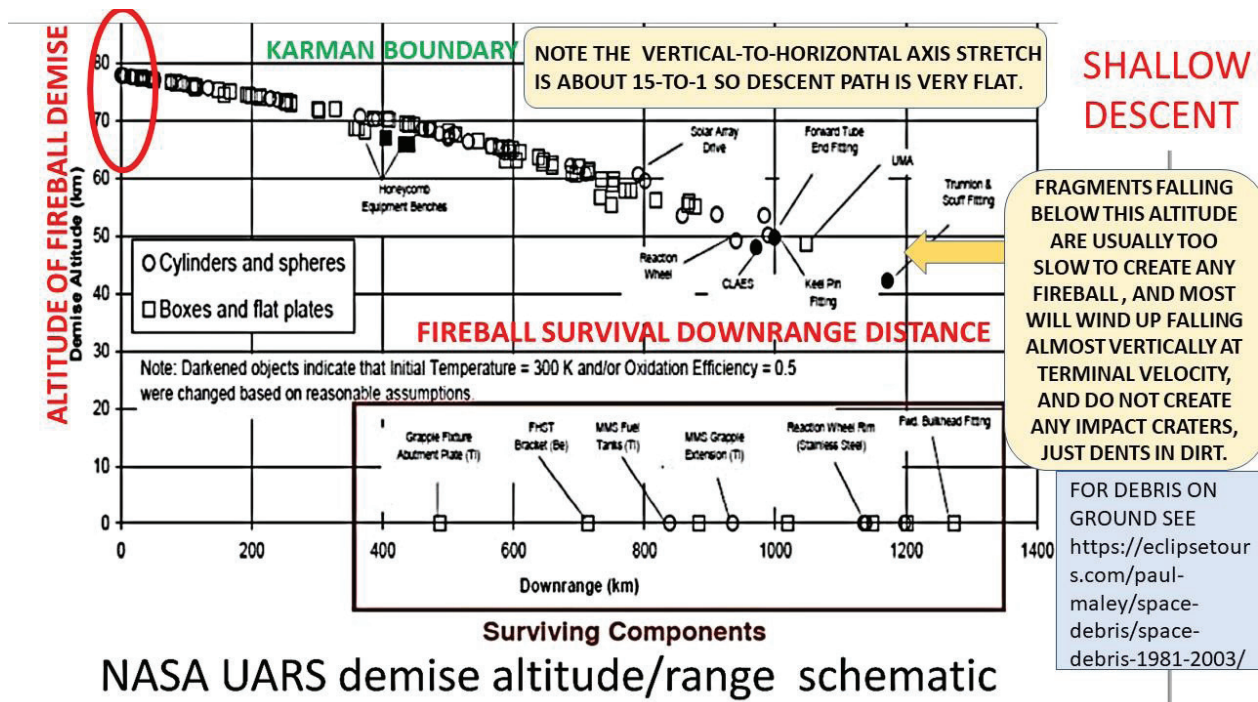
4/29/2021

OREGON FIREBALL SWARM DRAFT 2



Other reasons, addressed in longer reports cited in the Bibliography, included that the object was very low and close, that the motion was too slow, and often turned or even stopped, that no warning was issued, and that no debris was found.

Public mental images of “falling satellites” are widely shaped by false analogy with “falling aircraft,” exacerbated by the common media spurious analogy of anti-satellite weapons as “shooting down” enemy satellites. But even when shattered, the fragments maintain their forward orbital motion by their own momentum.





Witnesses expected “falling satellites” to fall *downwards* as shown in widely published artist concept (left) modeled after falling warplanes (right). Since satellites remain in orbit by virtue of tremendous horizontal velocity, even as they are near the atmosphere their motion will be largely horizontal.

The “but-it-flew-LEVEL” objection seems based on a very widespread public misconception about why satellites remain in space after launching. Somehow the over-simplified explanation is that the rocket flies up into space and escapes Earth’s gravity, so it can drift through space in whichever direction it chooses to steer.

But as Isaac Newton first explained more than three hundred years ago, an object “in orbit” just above Earth’s surface is still firmly in the grip of Earth’s gravity which is relentlessly pulling it down. Even as its path curves toward the ground, the ground itself is curving away and down, because Earth is round. If the object is moving fast enough, it doesn’t hit the ground at all.

Impeded by drag from the very thin upper atmosphere, a satellite slowly slips lower until about 40 miles (64 km) up it gets into enough wind resistance to lose its own speed more rapidly, and no longer can “fall over the horizon.” The significance for the satellite reentry flight path is that the tremendous horizontal speed [about 25,000 ft/sec, or 7,600 m/sec] will carry it way across the sky while it is descending – not straight down. By the time it’s falling vertically, it’s too slow to surround itself with flames, it’s too small to be seen in the sky.

The “appearance” of the descending object is a fascinating subject. The critical context of that perception is that the sky is dark, and the most striking visual impression is a group of lights moving in formation as if attached to a very large structure. That is a compelling impression that strongly suggests an explanation that resides already in the observer’s memory.

A typical large satellite reentry goes through several visual stages. At the beginning of the reentry phase, decaying satellites are skimming the upper atmosphere with tremendous forward speed, and they don’t begin to visibly DESCEND until long after they’ve fireballed into fragments, which occurs between 50-60 miles (80-97 km) up (the “Karman Boundary”), and a few miles (kilometers) lower. The satellite, and soon after, the fragments of the satellite, are still moving horizontally at about Mach 25.

A glow appears in front of the object in the hypersonic shock zone, and soon many still-glowing molecules trail behind the main object. At some point the object breaks apart under enormous deceleration stress. Individual fragments continue by momentum along near-parallel paths each with own flame trail. Pieces break off and fall forward, along parallel paths, in a cloud of sparks and dazzling stars, multi-colored from different types of metals, and flaring from explosions of, or heat-induced spraying from fuel tanks – especially with quick-decaying booster stages in low, unstable orbits, within a few hours [or a day or two] of the original launch, before residual propellants have been purged, or have leaked away.

The glow is not from “flames” or combustion but from molecular disruption of atmospheric components [oxygen and nitrogen] and recombination. The trail lengthens as the quantity of disrupted molecules increase. As the speed lowers, the amount of disrupted molecules decreases, and the tails die out while glow from the leading shock wave continues. At this stage the fireball swarm looks like a pattern of simple lights. As irregular fragments tumble, each object’s leading shock wave glow can flicker.

With gradual slowdown, the flame trail diminishes and fades while each fragment’s smaller leading shockwave fireball continues to glow. That final fireball dies out while the objects are still very high, still moving on a shallow decline.

This mass of lights and streaks moves, almost “in formation,” across the sky in total silence, another eerie feature. At its speed during this phase, it can take one or two minutes to cross the sky. Once sufficiently slowed, the fragments no longer have enough energy to induce airglow. Only after several minutes more would any sonic boom reach ground viewers.

VIDEO-TO-VIDEO COMPARISON SHOWS RANDOMNESS



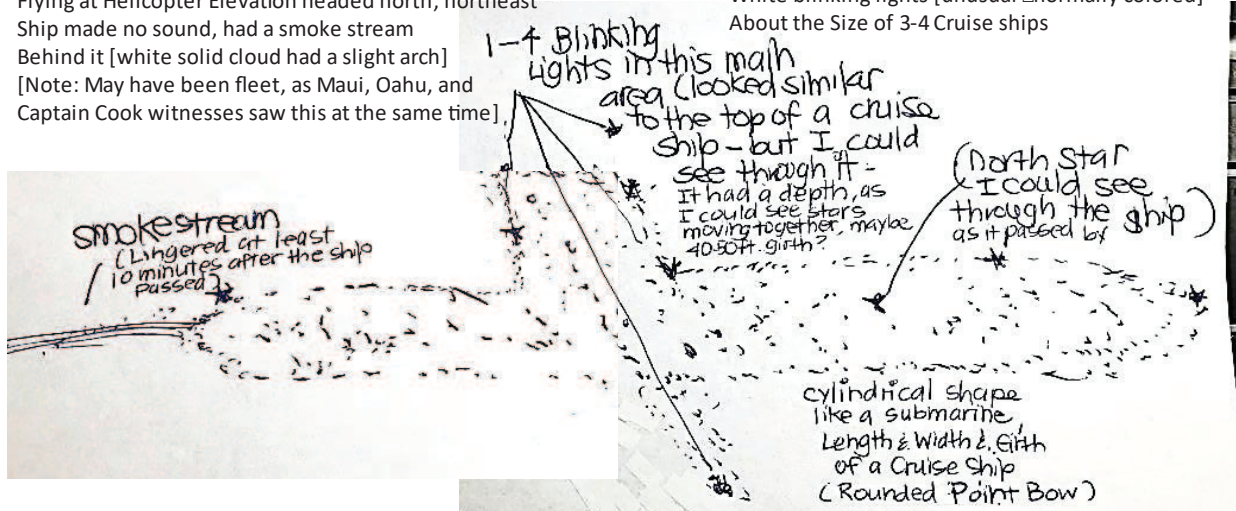
One shortcoming of the profusion of pocket cams is that low-light-level moving images can be jittery and overexposed, losing detail that could help characterize the initiating event. That’s why

it's important for investigators to actively encourage [even pester] eyewitnesses to make drawings of the detail their eye-brain system perceived in the fast-moving glary fly-bys. Then you get amazingly useful details such as this:

SECOND DRAWING / Copyright @2020 Claire K. Bajo, all rights reserved // USED WITH PERMISSION

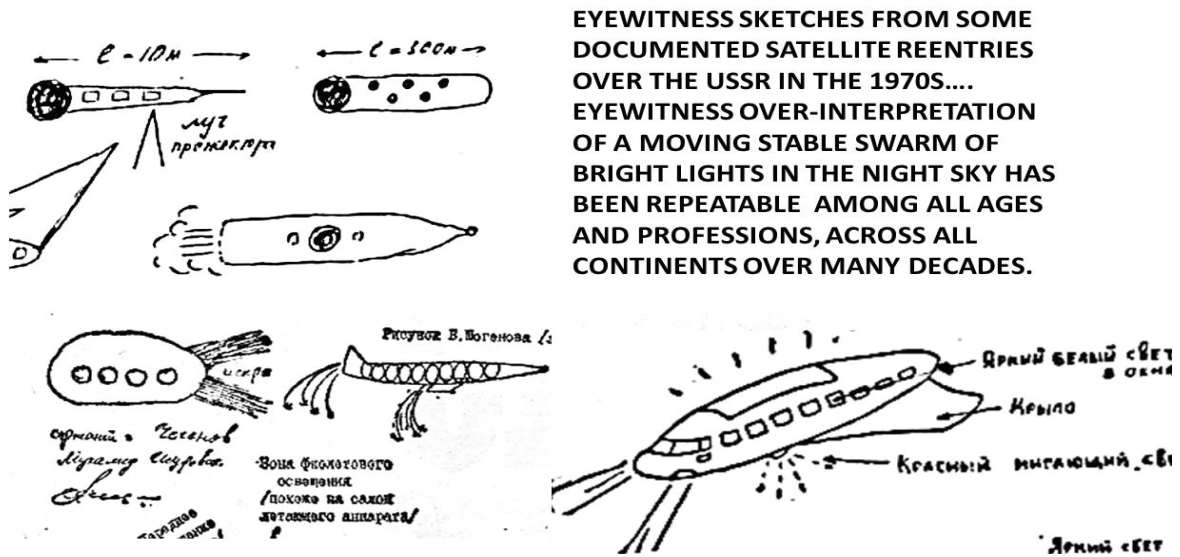
Scene at Waikoloa Scenic Point
Big Island, Hawaii 10/24/20 10 PM
Flying at Helicopter Elevation headed north, northeast
Ship made no sound, had a smoke stream
Behind it [white solid cloud had a slight arch]
[Note: May have been fleet, as Maui, Oahu, and
Captain Cook witnesses saw this at the same time]

Lights came from South, Southwest ☐ Over the Ocean
headed toward Pohakuloa
[From Kona Airport headed north, northeast]
White blinking lights [unusual ☐ normally colored]
About the Size of 3-4 Cruise ships



One point that needs to be stressed is how counter-intuitive it seems that a visual apparition as spectacular as a fireball swarm can so consistently and similarly be misinterpreted by witnesses of all cultures, education, profession, and experience. It's worth repeating – such a process is both learned, and innate, because it's 'survival-positive'. The visual cortex accepts raw images and instantly selects 'best fit' to past memories, both real life and learned from recorded images. In some professions, witnesses' minds leap to the most dangerous potential interpretation, as a matter of life and death – if the interpretation is NOT dangerous, a positive response is just embarrassing, but if it were dangerous, NOT reaching that interpretation could be fatal.

In assessing those witness comments, it must first be recognized that similar descriptions have been coming in from the identical visual stimulus – a flaming swarm of fireballs from a disintegrating heavy satellite skimming earth's upper atmosphere – since the earliest years of the Space Age. All over the world, all cultures, all professions, all ages, and awesomely similar.



EYEWITNESS SKETCHES FROM SOME DOCUMENTED SATELLITE REENTRIES OVER THE USSR IN THE 1970S.... EYEWITNESS OVER-INTERPRETATION OF A MOVING STABLE SWARM OF BRIGHT LIGHTS IN THE NIGHT SKY HAS BEEN REPEATABLE AMONG ALL AGES AND PROFESSIONS, ACROSS ALL CONTINENTS OVER MANY DECADES.

As already stated: the witness's misperception is NOT a failure of eyesight or of brain or of rationality – it actually reflects a survival-positive adaptation to sudden surprising ambiguous visual perceptions in which an observer must amidst urgent uncertainty quickly pick out from existing memories what threat or opportunity the perceived object offers so that fast response can be useful, even life-critical. False-positives are usually low-cost, so they are a preferred when-in-doubt strategy. At least, the genetic predisposition to this trait seems to survive to reproduce more offspring much more often over generations.

By adding many more similar events, both earlier and later in time, and especially the visually overwhelming 1963 'Kiev event' [now 'Kyiv'], investigators have now established the consistent, repeatable perceptual results beyond any reasonable doubt. Across decades of time, on all continents, witnesses of all professional and educational levels, of all ages and social levels, seem to generate memory-based fill-in interpretations of bright fireball swarms in a startlingly similar format.

In a more recent compilation of reentry fireball swarms (Printy, 2008),¹ we read:

*After examining many reports of known fireballs and re-entering space debris, I have discovered that the average observer can make many mistakes in their observations. Many will claim that the fireball landed just over the next ridge, often overestimate apparent size, and sometimes get their sense of direction incorrect. UFOlogist John Keel once wrote: 'Early in my own investigations I discovered that the average witness could not even pinpoint true north- even when he or she had lived in the area all their life...Estimates of altitude are much more difficult to make even for experienced pilots. And at night it is almost impossible to judge the altitude of an object (usually just a light of unknown size...estimates of UFO speeds are usually inaccurate and altitude estimates are questionable unless the object appears near something of a known altitude - such as a mountain or a conventional aircraft.'*²

¹ Tim Printy, "The Rocket's Red Glare," <http://www.astronomyufo.com/UFO/rocket.htm>

² John Spencer and Hilary Evans (eds.), *Phenomenon: Forty Years of Flying Saucers*. New York: Avon, 1988, pp 187-188.

The degree of perceptual elaboration of many individual reports still seems to defy “common sense,” and “a priori” would be patently incredible if suggested for a UFO. Only faced with a thoroughly documented range of perceptions for a subsequently fully-explained stimulus, is it “believable.” It can happen because it did, again and again. Here’s another example from France in 1990, of a Soviet space booster reentry – the “searchlights” are an occasional feature of recently-launched rocket stages presumably venting leftover fuel heated by the reentry:

5 novembre 1990 U.F.O

<https://youtu.be/ON3ez0a5MRo>

illustrations d'observations lors
de la vague du 5 novembre 1990
en France. Source: OVNI
CONTACT de Franck MARIE



For that reason, the 1963 ‘Kiev event’ [now ‘Kyiv’] may be the most important double-blind “control experiment” in the history of UFO studies, and it was completely accidental – and overlooked. I only received a copy of it in 2016 from a Spanish colleague, Vicente-Juan Ballester-Olmos. A team of technically-trained citizens, who did not know the prosaic explanation, interviewed more than a hundred witnesses and had them make drawings of what they had perceived. It turned out to be a Soviet booster rocket reentering from low orbit.

Its application to other reports of large structured silent light-equipped craft is both unavoidably obvious and revolutionary in its implications, because satellite reentry fragmentation is not the only potential way to create a grouping of bright lights in night sky. Other known sources include [not exhaustive] grazing meteors [much faster], military jet formation, mass parachute flare drop, spoofing private pilots, Chinese lanterns, and orbiting formations [e.g., NOSS].

In Summation

It’s helpful to recognize the scope of the fundamental challenge to assessing adequately the accuracy of any future witness descriptions of startling sky manifestations of any origin – natural events, human technology [missile/space activities, aircraft, weapons systems, etc.], or potentially truly anomalous phenomena highly deserving of serious attention.

The spectacular nature of such events is very attractive to visual media such as internet YouTube,

etc. But in general, more respected UFO research sites accept most satellite reentry explanations. Solution of this unique category of reports does not reflect on the genuine interest [even “unexplainability”] in other types of UFO reports, nor on the legitimacy of any of the most common offered general explanations for them.

Solution of this category of reports DOES reflect on the judgment of those advocates who imprudently accepted and promulgated the “unexplainability” of such events. This should reflect on their assessments of all other reports that they have similarly endorsed.

As long as ufology [“UFO studies”] remains mired in these kinds of spurious reports, it hinders its acceptance as a legitimate science-based field of inquiry.

The “coincidence” of a documented satellite reentry fireball swarm moving at the same time at the same rate in the same direction as the occasionally reported “UFO mother ships” becomes significant now that it can be shown to have occurred again and again all over the world.

It’s certainly correct to realize how it is difficult, “a priori,” to imagine how such once-in-a-lifetime apparitions can spark such “giant mothership” misperceptions. It definitely “defies common sense.” But that’s “earth-based” logic, and space is literally “unearthly.” Nonetheless, the records show that satellite reentries have done exactly that, many times, and in a startlingly reproducible manner with an uncanny similarity of results.

These data are trying to tell us something that we didn’t start out knowing, and we didn’t even KNOW that we didn’t know. What we THOUGHT we knew, wasn’t so. For many people, including many witnesses as well as enthusiasts of the non-explainability of such reports, it still is something they clearly do not WANT to know.

The only productive response is to try to be open to reality’s unambiguous implications, even if it is showing us evidence for what we don’t want to be true.

Offering this explanation should not be misinterpreted to believe it implies every witness to a fireball swarm [of any origin] misleads themselves into perceiving a “mothership UFO.” Past collections of witness testimonies show there is a gradient of interpretations from starkly separate lights all the way through a sharp-outlined large structure, for the very same raw visual stimulus.

Conclusion

The eagerness with which UFO-related interpretations spread across the Internet, along with vehement rejection of the rational prosaic cause, sadly reflects a continued reality-defiant corner of popular culture and significantly diminishes the chances of genuine progress in understanding potentially extraordinary [or deliberately concealed] causes of other strange reports.

1. Personal observations of unusual and enigmatic sky phenomena remain a critical engine behind potentially new scientific insights, and always will be.
2. The better we appreciate the full range of spaceflight phenomena, the better understanding and judgment we’ll have to be able to isolate and zoom in on the most promising “unknowns.”
3. Events such as these satellite reentry fireball swarms [and earlier similar events] sadly reveal widespread public misunderstanding of fundamental features of spaceflight, but that identifies

areas needing better person-to-person outreach that everyone can contribute to.

4. This is a “fixable” problem, but the remedy isn’t top-down, it’s bottom-up.

5. For “UFO studies,” this very specific category of reports is a dead end in terms of the legitimate ongoing search for evidence, but may yet serve to advantage [with other missile-UFO misidentifications] as a useful calibration of eyewitness testimony of similar future apparitions – and a cautionary tale for future events.

6. From all angles, these insights involve not hi-tech science labs but man-in-the-street interactions to overcome these barriers. It humanizes the heart of research on these topics and offers productive roles to everyone who feels curiosity.

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When Testimony Becomes Testament: The Case of Raël, UFO Prophet, and the Question of Witness Reliability

Susan J. Palmer

Abstract: This chapter features the case of Claude Vorilhon (“Raël”), a French journalist who wrote a book about his CEIII experience and went on to create a new religious movement (NRM) dedicated to carrying out the mandates of the Elohim (extraterrestrials), as revealed through their “Messenger.” This study addresses the question of the reliability of Raël as a contactee and his witness statement, as well as the challenges posed by the religious content of his messages received from extraterrestrials. Since the focus here is not on the social consequences of Raël’s testimony, but rather on the authenticity of the witness statement itself (which necessitates or at least implies a value-laden approach), the standard social-scientific method of “bracketing” the faith claims of mystics or founders of new religions has not been applied here. Rather, this researcher proposes to reverse the target of bracketing; to ignore the social context and to focus directly on Raël and his testimony, as a case study of the problems and questions that arise around the character of the witness to a UFO encounter.

Keywords: Raël, UFO, Bracketing, New Religion

Introduction

“The phenomenon under study is not the UFO, which is not reproducible in the laboratory, but *the report written by the witness*.” Jacques Vallée made this statement in the preface to his first book, *Anatomy of a Phenomenon*.¹ The UFO itself is the object that scientific ufology seeks to investigate, but the experience of sighting a UFO undergoes a number of refractions before reaching the investigator as a witness report. The physical stimulus that prompts the report is, first, experienced by *the witness themselves*, who, then, by a complex and problematic process of articulation (involving perception, memory, education, motivation, etc.) communicates a linguistic representation of their experience in the report itself.

This scheme, wherein the witness functions partly as observer and partly as instrument (registering sensory and other data) places great importance on the witness. But an even more daunting and complex challenge is posed by a UFO witness whose report is not just some astonished testimony collected by a police officer or UFO research organization, but turns out to be a *religious tract*, a kind of “New Testament” intended to gather and inspire a community of believers. A striking example of this latter kind of testimony is that of Claude Vorilhon (“Raël”) who describes his CEIII in his 1974 book, *Le livre qui dit la vérité*.²

But is there really such a marked difference between the “garden variety” UFO witness and the UFO prophet? One can trace back a long history of religious or spiritual dimensions associated with the UFO experience. Again, Jacques Vallée can serve as an instructive example. In his 1975 book, *The Invisible College*, he turns his attention from the Unidentified Flying Object to

¹ Jacques Vallée *Anatomy of a Phenomenon*. Chicago: H. Regnery Company, 1965.

² Vorilhon, Claude, “Raël”. *Le livre qui dit la vérité: le message donné par les extra-terrestres*.

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the *subject* of the witness. This shift in attention reveals that many witnesses, whose cases are reviewed throughout the book, not only claim to have witnessed a UFO but also report profound and uncanny experiences connected to their sighting. What witnesses often report are parapsychological phenomena: spacetime distortions (“missing time”), materializations, telepathy, poltergeist phenomena, and Out-of-Body Experiences. The case of an unnamed engineer whose report Vallée recounts, even includes physical changes: hyper- and hyposomnia, quickened mental capacities (comprehension and retention), hyper immunity to infectious diseases, and changes in eyesight.³

Of course, one need not invoke parapsychological considerations to legitimate the claim that the UFO encounter can be understood as a variety of religious experience, as has been done for decades. One can refer to, for example, the studies collected by James R. Lewis in *The Gods Have Landed: New Religions from Other Worlds*⁴ or the more popular, if less scholarly, *American Cosmic: UFOs, Religion, Technology* by Diana Walsh Pasulka.⁵

Nevertheless, there are serious objections to reflecting on, in this case, Raël, in the context of his claims as a contactee; one who describes contact and communication with extraterrestrials. The UFO witness is the source of the sighting report, which, in the absence of any automatic instruments (e.g., such as the proposal by Avi Loeb as part of The Galileo Project)⁶ becomes a foundational element (however problematic) of ufology. An essential task is to determine the veracity of the report, which requires scrutiny of the witness. In the context of ufological research, there is nothing particularly special about Claude Vorilhon, better known as “Raël”; his report is merely another data point, among thousands. Paradoxically, what makes his testimony significant for sociologists or scholars in the humanities serves to discourage efforts to assess its veracity. The social-scientific approach is to study the *effects* of his testimony, quite apart from any *facts* regarding its truth value; the question of the authenticity of his testimony is thus “bracketed” for the sake of focusing on its social significance, e.g., as an articulation of alternative beliefs in a new religious movement (NRM).

But I propose to reverse the bracketing, and focus instead on Raël, as a case study of the kinds of problems and questions that arise around the character of the witness to a UFO encounter, or an “experiencer” of a CEIV. However much a scientific ufology might want to reduce witness accounts to impersonal data points, this desire does injustice to the intractable fact of an irreducible particularity of each witness, which needs to be accounted for. If the witness is, in a sense, a recording instrument, then it requires careful calibration.

Raël, then, becomes a case study; one whose unusual features render it not so much an inconsequential outlier, as one whose complexity enriches the investigation of UFO witnesses. To proceed with this investigation, I propose to follow six steps:

1. A brief biography of the witness, Claude Vorilhon/Raël, will be provided.

³ Vallée, 1965, pages 6-9.

⁴ James R. Lewis (ed.), *The Gods Have Landed: New Religions from Other Worlds*. Albany: State University of New York, 1995.

⁵ Diana Walsh Pasulka, *American Cosmic: UFOs, Religion, Technology*. New York: Oxford University Press, 2019.

⁶ <https://projects.iq.harvard.edu/galileo/home>

2. The witness report of Vorilhon / Raël and confirmations thereof will be scrutinized. [I will bracket his later claim to be the biological son of an eloha named “Yahweh,” as well as his claim to be the chosen Messenger and “Last Prophet” of the Elohim in the Age of Apocalypse.]
3. The statements and opinions of character witnesses personally acquainted with him—friends, family, close associates—will be weighed.
4. A survey the more general reactions of those personally unacquainted with Raël, such as journalists, anticultists, rank-and-file ex-Raélians, and ufologists will follow.
5. The context of Raël’s CEIII experience; the socio-historical milieu of recent OVNI sightings in France, will be examined as well as the possible influence of contemporary ufologists on Raël’s writings.
6. Finally, the question of how one might interpret Raël’s testimony will be addressed.

The Witness

Claude Vorilhon was born in 1946 in Ambert (near Vichy) France. In his 1975 book, *Les extra-terrestres m’ont emmené sur leur planète*, he describes growing up with the historical and philosophical influences peculiar to France. In secondary school he was taught to revere science and studied the writings of Voltaire and Rousseau. His aunt and grandmother were firm atheists so as a child he imbibed the militant brand of atheism peculiar to France’s *laïcité*. Vorilhon left home in his teens to sing on the streets of Paris, and after a brief stint as a pop singer, he married a nurse in 1970 and they had two children. He then founded a car racing magazine called *Autopop* and became well-connected in the racing world, where he established a career as a test driver. This all came to a sudden halt when a new law was put into effect that banned speeding on the highways. Three months later, at age 27, Vorilhon experienced a Close Encounter of the Third Kind.⁷

The Testimony

On December 13, 1973, at age 27, Vorilhon drove into the mountains overlooking the city of Clermont-Ferrand in central France. He parked and walked towards the volcanic crater known as Puy de Lassolas. There he claims to have encountered an extraterrestrial, as recounted in the first chapter of his 1974 book, *Le livre qui dit la Vérité*. He beheld flashing red lights in the fog overhead, and “a sort of helicopter” descended soundlessly. The vehicle was seven meters in diameter, 2.5 meters in height with a “flattened shape.” It descended and hovered about two meters from the ground. A stairway slid out of a trap door and a small figure (1.20 meters tall) whom Vorilhon at first mistook for a child, came out and approached him. By this point Vorilhon realized he was witnessing a flying saucer and he describes the “Eloha” (extraterrestrial—singular for “Elohim”) as dressed in “a green flying suit” with a sort of halo around his head (a shield or bubble). The Eloha had white skin with a greenish tinge, almond-shaped eyes, long black hair, and a small black beard. The Eloha invited Vorilhon on board for a series of Bible lessons in which was revealed the “true meaning” of Genesis, the creation myth in the Bible. The Eloha dubbed Vorilhon “Raël” and revealed the secret of humankind’s true origins—that the first human beings were created or

⁷ For a more complete account of Raël’s origins, see Susan J. Palmer, *Aliens Adored: Raël’s UFO Religion*. New Brunswick, New Jersey: Rutgers University Press, 2004.

“implanted” on this once-barren planet by a team of extraterrestrial scientists who set up a laboratory and created life from their own store of DNA.⁸

Raël’s special relationship with extraterrestrials was confirmed subsequently on two occasions. On October 7, 1975, he claims he experienced a CEIV. As he describes in his 1975 book, *Les extra-terrestres m’ont emmené sur leur planète* [translated as, “They Took Me to Their Planet”], he awoke in the night with a compelling urge to return to Puy de Lassolas. There, an alien ship was waiting for him and transported him to the planet of the Elohim where he claims he was initiated into Elohim culture and customs.⁹ He watched his own body being cloned in a vat from a particle of his DNA. He studies the Elohim’s political system, “geniocracy.” He learned a sensory awareness technique that activates psychic abilities, stimulates the growth of new neural pathways—a technique he later shared with his followers in his 1980 book, *La Méditation sensuelle*.

A third uncanny experience is featured in Raël’s 1979 book, *Accueillir les Extra-Terrestres* [translated as, “Let’s Welcome Our Fathers from Space”]. A different kind of contact with the Elohim occurred on October 7, 1976, which involved the mysterious appearance of “angel hair.” This time there were fifty witnesses; Raël’s followers who were gathered to commemorate Raël’s abduction experience of the previous year. Raël writes:

Suddenly someone cried, “What is that falling from the sky?” Great flakes were falling from a nearly cloudless sky...made of a cottony substance which when touched melted. ...Two luminous objects...were just above us. The fall of the flakes lasted about ten minutes, then the objects suddenly disappeared.

This event occurred shortly before 15h. when Raël was planning to perform the Raëlian initiation ceremony of the “Transmission of the cellular plan.” Raël writes, “At the precise moment...the Elohim had offered a sign to those present, which they would never forget. For the first time, Raël had not been the only witness to the Elohim’s activities. There were fifty people with him who can testify to the phenomenon.”¹⁰

Character Witnesses: Friends and Family

The third step in our efforts to assess Raël’s credibility as a UFO witness is to examine the statements of those who were personally close to him. To this end, we will examine statements made by Raël’s boyhood friends, by the aunt who raised him, by his ex-wife, and by his mother. These statements are posted on a website (<http://raelian.com/en/>) created by ex-members:

Raël’s boyhood friends from Ambert, as well drinking buddies from Clermont-Ferrand who knew him in his mid-twenties, recall conversations with the young Vorilhon that would support the notion that he fabricated a UFO sighting as a money-making scheme.

Roland Chevaleyre, a restaurant owner in Puy-de-Dôme, in his interview on a TV program called “*Sectes, escrocs et manipulateurs*” (April 10, 2001), claims Raël had admitted to him in confidence

⁸ Raël also narrates his initial CEIII experience in a video posted on the Raëlian website (www.rael.org).

⁹ Claude Vorilhon/ Raël, *Les extra-terrestres m’ont emmené sur leur planète*. [“Space Aliens Took Me to Their Planet”]. Brantôme (France): Edition du Message, 1975.

¹⁰ Claude Vorilhon /Raël, *Let’s Welcome Our Fathers from Space*, Tokyo: AOM Corporation, 1987, pages 9-10.

that he lied about his encounter with “little green men,” but that boasted of how he had achieved considerable status through fabricating the story:

...that evening we ate together at a restaurant, so we went into deep discussion, and I posed straight up the question, and [Raël] answered me, 'Yes, I lied... I can tell you I lied to you, but you knew it anyway... it simply happened like that... he confessed to me very sincerely that he had never met a small green man over there, but that he is now what he is because people who believed him helped him to get to that position.

Jean-Jacques Arene, interviewed by *Le Progres de Lyon*, made the following statement, published on 16 January, 2003:

The Extra-Terrestrials? We invented them one evening in 1973 when we had good drinks with meal...in downtown Clermont-Ferrand. We were three, and Claude Vorilhon was very impressed when [Franck] told him how his father made a fortune. He had just his journal Autopop, which was agony. I was twenty years old. We were a gang, going out to the same pubs, the same clubs. That evening, after many drinks ...we spent the evening deliriously plotting a hoax that we could launch. The idea of the Extraterrestrials came from Franck. I suggested that tranquil spot close to Puy-de-Dôme. For us, it was a big laugh. But not for Claude.¹¹

Charles Guillaume, another drinking companion from the Clermont-Ferrand days, notes:

I was born in Clermont-Ferrand. I can't remember exactly the name of the pub where we used to meet on Gaillard Square...but I do remember well that on “hazy” evenings, the conversations of our small group would often be focused on extra-terrestrials. Just once, Vorilhon suddenly looked thoughtful and stern and said something like “What a brilliant idea!”¹²

Aside from old friends, members of the Vorilhon family have expressed their personal opinions, psychological insights, and moral judgments regarding Raël to journalists.

Raël's ex-wife, Marie-Paule, whom he married in Paris in 1970 when he was working as editor of *Autopop*, reports how, in 1973, when she was pregnant with their first child, they had visited his home village of Ambert, in the mountainous Auvergne region of central France:

He set off one day to climb an extinct volcano—and came back as Raël... I thought I had married a fairly ordinary, if slightly egotistical, man. Not a freak. At first, I believed that Claude really thought what he was saying was true, but over the years I began to think the whole Raëlian movement was a trick to have more sex and to satisfy [his] enormous ego and need to be worshipped.... Is he mad? No, I don't think so. I think he is devious, crafty, manipulative and very, very clever.¹³

When interviewed in 2003 by journalist Emmanuelle Chantepie, Marie-Paule described how Raël showed up at her door in 1984, “*ultime sursaut du gourou* [burnt out as a guru] and stayed for a while with her and the children in their home in Fréjus, France. She (a registered nurse) diagnosed

¹¹ <https://raelian.org/2022/04/02/testimony-of-journalist-jean-jacques-arene/>

¹² <https://raelian.org/2022/04/02/testimony-of-charles-guillaume/>

¹³ Emmanuelle Chantepie, “Raël: itinéraire d'un gourou en quête d'identités,” *Le Journal du dimanche*, January 5, 2003.

him as clinically depressed and taking sleeping pills for insomnia (“his mental health was in doubt.”).¹⁴

Raël’s mother appeared on a television network in 2001.¹⁵ When asked, “Don’t tell me that you have been inseminated by an Extraterrestrial!” she replied, sarcastically, “Who knows? Like the Holy Virgin? An angel came through my window.... Well, I do sleep with my window open!”¹⁶

Raël’s aunt, Thérèse Vorilhon, interviewed by a journalist in Ambert, described how she had raised “little Claudy” as her own son, and struggled to understand how her sweet little nephew had become Raël, and how little Claudy went too far at times:

*For instance, when he claims that he was born from the union of his mother ...with an extraterrestrial. When he says silly things, I call him a cornichon [“pickle”—the French equivalent of “nitwit”]. He was such an adorable child. He went to the local Catholic school, and he was in the church choir. He was the perfect child. But in 1973 everything changed. He says his discovery of Raëlism was like being reborn. He wasn't expecting it to happen. I told him it was a load of fairly harmless mumbo jumbo ... I love him like a son, so I have to accept it... Some children grow up to become doctors or farmers. He leads a cult. I have learned to live with it.*¹⁷

Public Responses

In the wake of Raël’s 1974 book, throughout the course of his charismatic career, Raël has generated considerable criticism, opposition, and derision from various opponents. These range from former followers (ex-Raélians), anticultists, Catholic priests, journalists, and anonymous jokers. Raël is a frequent target of scorn and derision in the French media and in “antisecte” circles. One of France’s leading “anticultists,” Xavier Martin-Dupont, is the editor of a website (www.zelohim.org) devoted entirely to discrediting Raël and the Raélians. French journalists’ initial reaction to Vorilhon as a contactee was one of tongue-in-cheek amusement. But within three years of its founding, the Raëlian Movement was perceived in France as a “threat to public order.” After Raël succeeded in building an international NRM, the journalists began to portray him as the stereotypical “*gourou*” and “cult leader” who was an *escroc* (fraudster) and a *manipulateur* (brainwasher).

But the controversies that swirl around Raël’s career are the direct result of his institution-building efforts based on the mandates given to him by the Elohim (or so he claims). Thus, the conflicts between this new religion and the state arise not so much from Raël’s claim to be a contactee, experiencer, abductee, *per se*—but rather from the use he makes of the Elohim’s symbols and messages, such as placing a swastika inside the Star of David, or claiming to fulfill their mandate to clone humans, and encouraging Raëlian women to perform topless marches.

Moreover, many once-loyal Raëlian followers have defected from the Structure (the core group), and some of them were high up in the leadership as Raëlian bishops or Continental Guides. Victor Legendre, who was the Raëlian Movement’s first National Guide of Canada, resigned because his girlfriend had claimed to receive direct messages from the Elohim (unmediated via Raël), so that

¹⁴ Emmanuelle Chantepie, “Le Passé de Raël dévoile par ses proches,” *Dernière Heure*, January 18, 2003, page 11.

¹⁵ M6 presented by Bernard de la Villardière on April 10, 2001.

¹⁶ The show was repeated on April 14, 2002, and on January 14, 2003.

¹⁷ François Vignole, *Le Parisien*, January 15, 2002.

he was forced to choose between the Message and his beloved girlfriend. Other apostates claimed they left because Raël had changed; he was no longer projecting love but had become a petty despot.”¹⁸ A rumor circulated that he had been kidnapped and replaced by evil aliens. The Raëlian Movement’s arch apostate, “Ex-Raël,” claims Raël is a “sexist” because he only allowed women to join the Order of Raël’s Angels. Another apostate, Richard Baril, accused Raël of pocketing the donations intended for the building of the Embassy, hence the long delay in the project. Daniel Chabot, one of Raël’s top bishops, left because he felt Raël had deviated from the Elohim’s mandate to promote peace and to maintain zero tolerance stance towards war-mongering. Jean-Denis Saint-Cyr, Raël’s “right hand” for fourteen years, exposes the “financial manipulations and exploitation of women” in his 2019 book, *Confessions de Raël à son ex-bras droit*.¹⁹

But none of these apostates have expressed doubts concerning the existence of the Elohim, as depicted by Raël. Nor do they question Raël’s claim to be a UFO witness, a Messenger, or a Messiah chosen by the Elohim.²⁰

The Ufological Context

The receptivity of the French public to Raël’s claims and to the Elohim’s message, must be examined against the backdrop of France’s UFO sightings, reported since the early 1800s until the 1970s.

On 12 January, 1836, a glowing doughnut rotated through the sky above Cherbourg. On 1 August, 1871, a meteor-like object zigzagged across Marseilles’ horizon. Another rash of sightings occurred in the 1950s. By the 1970s, France was in the throes of “flying saucer fever.” In 1974 and 1975 there were numerous UFO sightings in the La Nièvre region. In 1975 two demi-spherical objects were seen near Boulogne en Haute Marne by witnesses interviewed by gendarmes, ufologists, and distinguished scientists and astronomers. The witnesses proved to be solid citizens, whose respectability was beyond reproach. The sheer volume of these sightings was impressive. The journalist Jean-Claude Bourret, after collecting five thousand accounts of CEIIs in France, noted: “by pursuing...all the sources available; media, army, police, scientific enquiries, one finds oneself in the presence of a colossal mass of information.”²¹

It has been argued that “concrete proof” of the objective existence of UFOs was found in the Turin airport affair of November 30, 1973. Two pilots, a technician, and dozens of passengers spotted a flying saucer at 7:00 p.m., initially detected by the airport’s radar. Two weeks later, on December 13, a twenty-seven-year-old sports journalist and race-car driver named Claude Vorilhon experienced his own Close Encounter.

The originality of Raël’s 1974 revelations has been questioned by his cultural opponents. The “Ancient Astronaut” theory, for example, was already in vogue, ever since the French edition of

¹⁸ Personal communication.

¹⁹ Jean-Denis Saint-Cyr, *Confessions de Raël à son ex-bras droit*. Montreal: Les Éditions au Carré, 2019.

²⁰ For an account of these apostates’ careers, read chapter seven, “Enemies Within,” in Palmer 2004, pages 157-176.

²¹ Jean-Claude Bourret, *La Nouvelle vague des soucoupes volantes*. Paris: France-Empire, 1974; *Le Nouveau défi des OVNI*. Paris: France-Empire, 1975; *La Science face aux extra-terrestres*. Paris: France-Empire, 1977.

Also, see John A. Saliba, “UFO Contactee Phenomena: A Psychosociological Perspective,” pages 207-250 in James R. Lewis, 1995.

The Chariots of the Gods came out in 1969.²² Prior to von Däniken's work, there were less well-known books presenting similar ideas of extraterrestrial influences on our planet, but von Däniken failed to credit these authors, although he made the very same claims, relying on similar or identical evidence. For example, the first (Swiss) edition of von Däniken's *Erinnerungen an die Zukunft* failed to cite Robert Charroux's 1963 book, *One Hundred Thousand Years of Man's Unknown History*, despite the fact that the two authors were making almost identical claims.²³ In the same vein, Raël failed to cite French ufologists Jean Sendy (1968), Serge Hutin (1970), and Jacques Bergier (1970) who had all written books claiming that human civilization originated in an ancient colonial outpost of extraterrestrial pioneers and scientists.²⁴ These books all predated Raël's first (1974) book.

A former Raëlian Guide named Sage Ali addresses the issue of whether Raël was influenced by the theories of Jean Sendy, a French ufologist who wrote *La Lune, clé de la Bible* (1968) and *Ces dieux qui firent le ciel et la terre, le roman de la Bible*, 1969. Ali identifies ideas and themes in Sendy's work which he claims have been reproduced with no citations in Raël's books.

For Sendy, "Elohim" is a plural word in ancient Hebrew that means, "Those who came from the sky." For Sendy, the Elohim are human beings like us, for we were "made in Their image."²⁵ Sendy challenged the theory of evolution, claiming the Elohim began creating life on Earth between 23,500 and 25,000 years ago.²⁶ He claims the Garden of Eden was a laboratory where the Elohim were able to re-create various species using genetic material.²⁷ Sendy's interpretation of the Fall in the Bible resonates with Raël's. Lucifer's group (the Serpent) was condemned to remain on Earth.²⁸ The Elohim lost confidence in the people of Earth because of their aggression, so they decided to leave.²⁹

Raël's description of the Elohim's way of life on their planet in his 1975 book echoes some of Sendy's notions, such as that the Elohim don't need money, for unlimited material goods are free for everyone.³⁰ Also the notion that Elohim have a "fully technological civilization."³¹ Raël's notion of a "Geniocracy" or "rule of geniuses" is prefigured in Sendy's 1969 book, where intelligent scientists have chosen to live apart from people of mediocre intelligence on the Elohim's planet" and "Individuals with excessive genius" will live outside of regular society.³² Sendy and Raël's interpretations of the symbolic meaning of the Star of David overlap. For Sendy it represents the "identity between what is above and what is below."³³

²² The first edition in 1963 was in German.

²³ Robert Charroux was added to von Däniken's bibliography in later editions of *Chariots of the Gods*.

²⁴ See Jean Sendy, *La Lune, clé de la Bible*, 1968; and *Ces dieux qui firent le ciel et la terre, le roman de la Bible*, 1969; Richard Hennig, *Les Grandes Énigmes de l'Univers*, 1969; Serge Hutin, *Hommes et civilisations fantastiques*, 1970; Jacques Bergier, *Les extraterrestres dans l'histoire*, 1970.

²⁵ Sendy 1969, page 13; 1968, pages 63, 130.

²⁶ Sendy 1969, page 182.

²⁷ Sendy 1969, pages 95, 110, 127.

²⁸ Sendy 1989, pages 144-147.

²⁹ Sendy 1969, pages 139-145.

³⁰ Sendy 1969, page 122.

³¹ Sendy 1969, page 122.

³² Sendy 1969, pages 111-112.

³³ Sendy 1960, pages 222-23.

An alternative explanation of this synchronicity was offered by a “prominent European Raëlian friend” of Sage Ali: “He said that the Elohim actually contacted Jean Sendy before Raël because Sendy was their first choice to be their prophet and ambassador, but he turned down the mission... Raël doesn't know about this because his father Yahweh didn't want to destroy his confidence by telling his son that he was their second choice.”³⁴

Theorizing the CEIII

How might we researchers and members of the academic community understand Raël's CEIII experience?

We might analyze the witness' experience within the frameworks supplied by psychoanalysts or psychologists of religion. Elizabeth Bird, for examples, argues that that contactees are fantasy-prone, suggestible people easily influenced by cultural trends.³⁵

We might approach Raël as a mystic, referring to William James' model of the mystical experience.³⁶ Certainly, we find in Raël's witness account the four characteristics of a mystical experience: Ineffability, Noetic Quality, Transiency, and Passivity. So how did the young Vorilhon transform a classic mystical experience into an urgent mission that generated an international religious movement?

We might cite C.G. Jung's³⁷ model of the Collective Unconscious as a storehouse of religious ideas and symbols which, as Jon Saliba puts it, “can become exteriorized through anxiety or stress.”³⁸ Thus, Vorilhon (quite understandably) was experiencing anxiety related to nuclear war and nuclear contamination. He had been reading Jean Sendy and von Däniken, admiring how they reconstructed the myths in the Hebrew/Christian Bible to render them compatible with science and contemporary concerns. In attempting to communicate his own mysterious, almost ineffable experience, he used the language that was available and meaningful to him at the time, the mythic language of the Bible and the symbolic language of ufology.

So how might one analyze the Messenger without exploring the Message? Must we “bracket” its spiritual quality and religious dimensions?

Jon Saliba notes, “the aura of mystery in which these accounts are expressed is astounding.... Encounters with UFOs, particularly those of the third and fourth kind, are intense experiences that are easily comparable to those of Christian mystics or visionary saints.”³⁹ Raël's account is no

³⁴ “Testimony of Sage Ali, Former Raëlian” (http://raelian.com/en/sage_ali.php)

³⁵ Elizabeth Bird, “Invasion of the Body Snatchers” *Psychology Today* 23: no.4, 1989, pages 64-69.

³⁶ William James' *The Varieties of Religious Experience: A Study in Human Nature*, was published in 1902, and comprises his edited Gifford Lectures on natural theology, presented at the University of Edinburgh, Scotland between 1901 and 1902.

³⁷ C.G. Jung, *Flying Saucers: A Modern Myth of Things Seen in the Sky*. (From Vols. 10 and 18, Collected Works). Translated by R. F.C. Hull. Princeton, New Jersey: Princeton University Press, 1958.

³⁸ Saliba, page 68

³⁹ Jon Saliba, “Religious Dimensions of the UFO Experience,” in *The Gods Have Landed: New Religions from Other Worlds*, ed. James R. Lewis, 1995. Albany: State University of New York, 1995, page 50.

exception. He conveys the experience of encounter with the Eloha with the kind of naïve simplicity and sense of wonder we find in St Exupery's *Le Petit Prince*.⁴⁰

Conclusion

How might one justify choosing to study Raël's case? How does it contribute to this volume?

First, Raël provides a rich and unique example and case study for two reasons. First, his CEIII and CEIV are conveniently well-documented. Second, Raël is a *special case* since he is a "witness" in both senses of the word. He is an "experiencer" who "witnessed" the descent of a UFO, but he is also an evangelist who preaches a new gospel (as in the Two Witnesses of Revelation, or Jehovah's Witness missionaries). Unlike many previous UFO witnesses, who were hesitant to go on record for fear of sullyng their social and professional reputations, *Raël* is not at all secretive, in fact, he broadcasts his witness experience and uses it to construct a new religion.

But this dual role raises an important question: "Is Raël honest? Is he telling the truth?"

For the scientific ufologist, the veracity of Raël's story holds little importance. His witness account is just one of many data points. The UFO sighting is treated rather like a crime scene. The witness, as a whole person, is irrelevant. It doesn't matter what happened before the event, nor what happens afterwards.

For Raël's disciples, the Raélians, in contrast, the issue of veracity is of burning importance. Should the Elohim's Messenger prove unreliable, their sacred worldview and the way of life of more than 80,000 followers would be undermined and many would confront "cognitive dissonance."⁴¹

For scholars in the social sciences, on the other hand, the issue of veracity should not be important, nor relevant to their work. Ironically, the "normal" academic procedure would be to "bracket" the claims of charismatic prophets and questions of faith, while focusing on the historical or social aspects of a religious movement and/or its leader. But, for the purposes of this volume, we have been asked to do precisely the opposite; to focus on the issue of authenticity; on Raël's "believability" as a contactee, and to ignore or "bracket" the real-world repercussions found in his subsequent career as the world's "Last and Fastest Prophet."⁴²

When one focusses narrowly on the CEIII or CEIV as described by Vorilhon/Raël, one encounters certain obstacles or problems that interfere with its "believability." For example, the notion that an extraterrestrial would arrange a series of six meetings with a human for the purpose of studying the true meaning of the Bible is hard to digest. Also, Raël's original account is embellished in later tellings (particularly the reported conversation with Raël's biological father Yahweh in 1975 that impacts his earlier account of meeting an Eloha in 1973). For scientific ufologists, these later embellishments are unimportant, irrelevant. For Raël's disciples they would be understood as

⁴⁰ Antoine de St Exupery, *Le Petit Prince*, Paris: Gallimard, 1943.

⁴¹ Leon Festinger, Henry Riecken, and Stanley Schachter, *When Prophecy Fails: A Social and Psychological Study of a Modern Group That Predicted the Destruction of the World*. Minneapolis, Minnesota: University of Minnesota Press, 1956.

⁴² See Susan J. Palmer's chapter, "The Last and Fastest Prophet" in *Aliens Adored*, 2004, pages 31-58.

inspiring new revelations. But for academics in religious studies who dare to raise the issue of authenticity, they are problematic.

There have been several interesting challenges to what has become a standard academic methodology of bracketing extraordinary claims (such as those of Raël and other religious or spiritually-inclined UFO witnesses). This method has been called into question by religious scholar Hussein Ali Agrama. In a discussion with Jeffrey Kripal during the (March 3-6, 2022) *Archives of the Impossible Conference* at Rice University in Houston, Texas.⁴³ Agrama questions the metaphysical and epistemological assumptions underwriting the academic's timid suspension of judgment. He argues that this suspension all-too-often unconsciously slides into an outright denial of the possibility or reality of the pertinent anomalous phenomenon, thereby implying a tacit affirmation of its ontological status quo as essentially material or socially constructed. Agrama argues that by suspending judgement and "just looking at the people who believe these things and...the social consequences of their practices and beliefs," academic researchers are implicitly rejecting the possibility of the paranormal and spiritual, and reinforcing the epiphenomenalist's worldview—that only the social and material plane of reality exists.

"But the UFO is deeply disruptive," Agrama insists. Once you acknowledge that, and ... other paranormal phenomena that come with it, then your conception begins to change, and you undergo what I called elsewhere "ontological shock."

Jacques Vallée makes the same point when he argues that, once we begin studying the UFO witness *as an individual* and include the "before and after" of the phenomenon in our study, we find—in many cases—that the UFO experience begs to be analyzed in *religious* terms. He insists that any investigation of witness reliability should be open to including the spiritual dimensions of the phenomenon.

In the end it is impossible to determine whether Claude Vorilhon "really" saw a UFO descending through the mist, or did, in fact, encounter an extraterrestrial. While there are some small revisions and embellishments in his later retelling of the original CEIII and CEIV stories, that does not necessarily undermine Raël's credibility. If a dream—or a fish story—becomes enriched with detail over several retellings, does this mean the narrator didn't have a dream, or that the fisherman never caught a fish?

So how can one judge the veracity of this UFO witness account and the reliability of this particular witness?

If one considers the possibility that Vorilhon was telling the truth, then what tools did he bring to this deeply disorienting, potentially terrifying, encounter? He brought his own familiar tools of the Bible, his Frenchman's atheism and Voltairian skepticism, his reverence for science, plus the exciting, newfangled myths of Jean Sendy and other ufologists. Stimulated perhaps by an authentic CEIII experience, he applied these tools to tame it, to craft his testimony, rendering it beautiful, touching and "cozy." He "made sense" of it. Moreover, in the retelling he continued to craft his

⁴³ <https://www.youtube.com/watch?v=Kmrn4FBXrfw>

uncanny experience in such a way as to address one of the most terrifying challenges to humanity looming on the horizon—the threat of nuclear war.

Finally, the case of Claude Vorilhon/Raël suggests that the question of witness testimony is remarkably complex. One cannot simply treat the witness as a passive recording instrument (e.g., a CCTV camera). The witness is always already a site of social and individual determinations. Moreover, the experience itself is not necessarily self-contained, but may be preceded or followed by other experiences that help make sense of the “primary” report. This important *temporal* dimension of the report includes, too, the question of its own consistency over time in its retellings as well as what literary scholars refer to as its “reception history” (i.e., the ways it is understood and judged over time). This reception history is made possible by the *social* dimension of the testimony. The witness is not “an island entire unto itself,”⁴⁴ but a social being, whose reporting may be inhibited or encouraged by their immediate social circle and more general social milieu, social contexts often turned to as relevant in determining the veracity of the witness. One might end by observing the believability of a report is not a simply rational matter.

In the case of Raël, its unconventional content will motivate one judge to reject it as outrageously false, while among his followers, the spiritual significance of the message contained in the testimony will confirm its truth. For all its singularity, the case of Claude Vorilhon / Raël serves as a reminder of the inescapable “messiness” of the question of witness veracity in the real world, a world whose reality escapes every laboratory, whether brick-and-mortar, procedural, or methodological.

But what does Raël himself have to say on this issue, and how does he defend his own veracity? According to Mark Woodgate, the former National Guide of New Zealand:

Over the years, Raël has made many onstage references such as, ‘even if it isn't true, it is still beautiful’ or ‘if it is only a dream, then my dream is better than their reality.’ I've even heard Raël ask the audience, ‘Even if it isn't true, will you stay with me to build this dream? Good! Then it doesn't matter if it is true or not!’⁴⁵

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⁴⁴ John Donne, Meditation XVII, Devotions upon Emergent Occasions.

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The Legendary Cash-Landrum Case: Radiation Sickness from a Close Encounter?

Gary P. Posner

Abstract: One night in December 1980, Betty Cash (then age 51), her friend Vickie Landrum (57), and Vickie's grandson Colby (7), allegedly witnessed, at close range, a massive, hovering, diamond-shaped, porthole-encircled, fire-spewing object, which was soon to be escorted away by more than 20 military helicopters. This case's notoriety revolves primarily around Betty's saga, as she was more exposed to the object than the others and thereafter manifested the most significant illnesses, some of which have been attributed to "radiation sickness" from her UFO close encounter. However, the nature of the principals' medical signs and symptoms (and the absence of another) provide reason to seriously doubt, if not discount, the role of ionizing radiation. Thus, the reliability of the testimony not merely of the eyewitnesses, but of others who have contributed to Cash-Landrum's standing as *the* classic "UFO radiation" case, merits critical scrutiny.

Keywords: Cash-Landrum, UFO, Radiation

Background

Some forty years ago, aerospace journalist, UFO skeptic, and friend, Philip J. Klass, requested my assistance in investigating the then-one-year-old Cash-Landrum "UFO radiation" case. I was in my second year of medical practice as a general internist, with limited knowledge regarding radiation-induced illness. My efforts included textbook research and correspondence with, among others, the primary radiology consultant to the Mutual UFO Network (MUFON), the principal agency chronicling this case. Three years ago, I scanned much of my file's content and created a C-L section on my website at gpposner.com/Cash-Landrum.html.¹ My contribution to this book is at the behest of its first-listed editor, whose invitation noted that C-L "is such an important case that it probably even influenced the inclusion of the study of UFO-related physiological effects in the recently approved Unidentified Aerial Phenomena (UAP) law in the U.S. National Defense Act."

The Eyewitnesses' Testimony to the U.S. Air Force

On August 17, 1981, Betty, Vickie, and Colby were interviewed jointly by three U.S. Air Force representatives at Bergstrom Air Force Base in Austin, Texas. The following narrative is derived from a transcript of that session.^[1]

Betty and Vickie believed the object to be not an alien spacecraft but an experimental U.S. governmental device. At the suggestion of ufologist Allan Hendry, Betty wrote to her two Texas U.S. Senators and received a response from Sen. Lloyd Bentsen directing her to Bergstrom AFB for assistance. Per her account, at about 21:15 on the night of December 29, 1980, with Vickie and Colby as passengers in her vehicle, a strange light was observed in the sky. As Betty turned the car onto a narrow country road between the Texas towns of New Caney and Huffman (roughly 30 or 40 km northeast of Houston), the object, which now "lit up the entire sky," suddenly descended "almost level with the treetops." They could not proceed further because

¹ All gpposner.com URLs are case sensitive, as my website is hosted on a Linux server.

“fire was shooting out the bottom of it.” Inside the car, “the heat was so intense” that Betty exited the vehicle. From her vantage point in front of her car, she estimated the size of the craft to be “as large, if not larger, than a water tower.” She watched it for several minutes before retreating back into the vehicle, but the door handle was “so hot I couldn’t stand it with my bare hand, so I got the pocket of my leather jacket to open the car door.”

Once the object lifted off, Betty said “it was [still] so hot ... we were all burning up.” And within moments there were “helicopters completely around the object ... the [type with] two rotors. ... I counted twenty three. ... They had ‘United States Air Force’ [markings].” The copters and UFO eventually drifted away together, with the object emitting a “shrill beeping sound. ... It was ... deafening.” Betty estimated the duration of the event to have been “about 15 to 16, 17 minutes.” When asked to “draw ... a picture ... if it had a discernible shape, and just sign it and date it for me,” Betty sketched what she described as “a diamond.” Vickie added some streaks from the bottom point where she said “the fire was coming right down,” and further characterized the object as “kinda like a flat ... aluminum, I guess, [and] the inside of it looked dark.”

Betty insisted that she had been feeling fine prior to the incident, but within 30 minutes of the traumatic experience she began developing “blisters all over my head, my face, my back, my neck. I was burning ... from the inside out.” She reported prompt swelling of her lips and ears, areas of hair loss and, at the time of this interview, nearly eight months post-incident, continuing issues with upset stomach, diarrhea, fatigue, and severe headaches, among other symptoms.

Vickie recounted being outside of the car for “just a few minutes,” most of the time apparently only partially, with one arm “holding [Colby] in, and had my [other] arm up on the car,” resulting in it getting “burned.” She added that “blisters” on her arms continue to come and go. On the back of her left hand, one questioner pointed out “a bruise about the size of a quarter [and] kind of a deep purple,” about which Vickie explained, “Saturday we were out in the sun for quite a while, and the sun does it to me.” She said her hair started falling out “about a month after the incident” but had since regrown, though with a different texture. She said she initially “was sick [with] the diarrhea and everything,” but most of her ongoing symptoms seemingly involved her eyes, which she said had “started forming ... a film, like cataracts, except that my eyes was burned so bad that they teared for about three months.” She added that they still “feel just like they’ve got sand in them,” especially when she is out in the sun, and “my eye doctor said that there’s a possibility that within a year or year and a half that he’ll have to operate.”

Colby concurred with the timeframe of “about ... 15 to 20 minutes.” He said the object was “kinda yellowish-red” but was not asked and did not comment about its shape or having felt burning heat. Vickie described him as “screaming and crying,” yet when asked “[when] you saw it ... what did you feel like?” he replied, “I just ... [sat] there wondering what it was” and “didn’t feel nothing until I got up the next morning” with stomach pain and “runny” stool.

The Eyewitnesses’ Testimony to the Media

Through the years, numerous books, magazine articles and television programs have perpetuated the story of the Cash-Landrum “UFO radiation” incident. The July 9, 1998, “Close Encounters” episode of *The Unexplained*² may just be, based upon my own experience on another of this

² This series, which ran from 1996-2000, should not be confused with any newer one(s) with a similar name.

series' episodes, one of the more respectable efforts. On this program,^[2] Betty adds some flourishes to her Bergstrom AFB rendition. For example, when attempting to reenter the car, "I just grabbed the door handle, and when I did it just pulled all the meat off my hand" (at 21:29 of the video). And that night, "I went on to bed and I was so sick all night, upchucking. The next morning I woke up and there was big globs of hair on my pillow" (24:05). Dr. Bryan McClelland, a family practitioner who began treating Betty after her subsequent move to Alabama months after the incident (to be nearer her mother), offers, "The illness that she suffered three weeks after her exposure was an absolute classic radiation injury in which she lost skin, she lost hair on the exposed side. She then had diarrhea, vomiting, and all the illnesses you get [from ionizing radiation], and it was exactly on time" (25:01).

On the same show, Vickie explains that after the craft and helicopters "flew [away] slowly toward Houston" (at 22:08), about 13 km into the resumption of their drive home "there was [another?] whole bunch of [the big kind of] helicopters that were flying in with their searchlights on. They flew over us" (23:12). A photograph of what the narrator misidentifies as the "badly burned [hand of] *Betty Cash*" (23:26) shows an area resembling a dark purplish triangle on the back of Vickie's left hand (a newspaper photo's caption at 31:25 correctly names Vickie).



Photograph of Vickie's left hand, as shown in numerous print publications and television shows, including *The Unexplained*

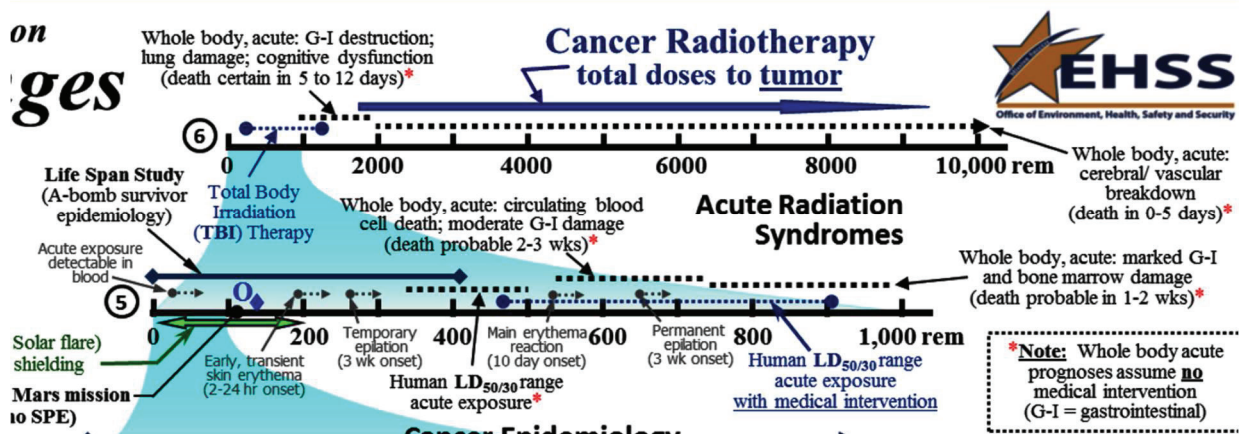
In 1985, HBO's *America Undercover* documentary series devoted a portion of its hour-long episode "UFOs: What's Going On?" to the Cash-Landrum case.^[3] Per Betty (at 40:23), "After they found out really what had happened, then they started ... treating us as *radioactive* burns. And since [then], I have had cancer." The narrator immediately clarifies that "Betty's hospital records do not explicitly state that she was treated for radioactive burns" but that she exhibited symptoms "similar to someone who might have been exposed to a radioactive element."

Dose-Related Effects of Ionizing Radiation

Cash-Landrum's notoriety as a "radiation" case rests primarily upon several reported medical effects allegedly caused by the witnesses' exposure to the UFO: hair loss, acute skin burns with non-healing sore(s), and gastrointestinal complaints (particularly nausea and diarrhea). Within

weeks of receiving Phil Klass' request for assistance, I had compiled my preliminary findings regarding both the superficial and internal effects of excessive ionizing radiation. Though no two people or exposures are identical and expert opinions can somewhat differ, my sources indicated that temporary epilation (hair loss) requires, for a single exposure, about 300-400 rad of ionizing radiation. It takes 2-3 weeks for onset and, following a resting stage, hair begins to regrow in 1-3 months, gray or white in color but typically with its original texture.^[4,5] Regarding the skin, acute onset of erythema (redness) requires about 450 rad and should disappear within about three days; it would take exposure of greater than 1,000 rad to cause blistering and non-healing of sores.^[6] As for GI effects, while nausea and vomiting may be seen at far lower doses, diarrhea lasting more than a few days would require exposure of 1,000 rad.^[7]

In preparation of this chapter, I reviewed some additional resources to augment my originals from four decades ago. A December 2017 U.S. Department of Energy publication contains a graphic titled "Ionizing Radiation Dose Ranges (Rem)."^[8] Its timeline #5 confirms "Temporary epilation" to typically have a "3 wk onset" following a dosage of about 260 to 300 rem. Early (2-24-hour onset) transient skin erythema can occur from as little as 190 rem, while "Main erythema reactions" require about 530 rem, roughly the same minimal requirement for "circulating blood cell death [and] moderate G-I damage," with "death probable 2-3 wks." Without medical intervention, the LD50/30 (dose likely to be fatal to 50% of victims within 30 days) is roughly 340-500 rem.³



The relevant timeline (#5) from the above-cited December 2017 U.S. Department of Energy publication

On the U.S. Centers for Disease Control and Prevention (CDC) web page devoted to "Acute Radiation Syndrome," Table 1 implies that exposure in the 50-rad range should manifest in mild blood-related findings, and that a dose in the 600-rad range is required for any notable GI effects. Diarrhea continuing for more than a few days—if resulting from an acute exposure—would be severe and indicative of a full-blown GI syndrome requiring 1,000 or more rad, with death "within 2 weeks."^[9] The U.S. Atomic Energy Commission concurs that this level of whole-body irradiation leaves "the prospects of recovery ... so poor that therapy may be restricted largely to palliative measures," followed almost invariably by death "usually within ... 2 weeks."^[10]

³The differing units of measurement ("rad" vs. "rem") seen throughout this chapter are explained thusly by the U.S. Nuclear Regulatory Commission (see <https://tinyurl.com/CL-Nuclear>): "For practical purposes ... 1 rad (absorbed dose) = 1 rem or 1000 mrem (dose equivalent)."

MUFON's Investigation

The principal investigation of this case was conducted by the Mutual UFO Network. The December 1982 issue of its *MUFON UFO Journal* contains an article by Paul Stowe, MUFON's Research Specialist in Nuclear Technology.^[11] Stowe asserts that "the observers exhibited radiation sickness of varying severity as well as local skin burn." He notes that the photoelectric effect of *non-ionizing* radiation, such as ultraviolet light, could account for "the observed burn as well as the sensation of heat." But to account for "the [other/deeper] injuries ... it is apparent that a delivered exposure of between 200-300 rem occurred. ... [I]t is further assumed [to have been] gamma/X-ray emission." His article includes a table based on "data gathered by the [U.S.] Department of Defense" listing the observable effects of various ranges of exposure to such radiation. In it, blood abnormalities are noted to manifest at about 50 rem. The 200-300 rem column reads, "Radiation sickness with accompanying first instances of death occurring within 30 days." Further down, 300-450 rem represents the range considered to be LD50/30, and 600-900 rem is the LD100/30 range (100% lethal within 30 days' time).

Following Stowe's article, Peter Rank, M.D., a practicing radiologist in Madison, Wisconsin, and MUFON consultant, writes, "I would agree totally with Mr. Stowe's analysis," yet he parts with Stowe regarding both the assumption of deep/total-body exposure ("This is by no means clear") and the estimated 200-300 rem ("I do not believe that a general dosage level can be assigned"). Rank does concur that "both women had symptoms of radiation sickness," though he notes that "there were no well documented changes in the blood."^[12]

MUFON co-founder John Schuessler has researched and written extensively about the C-L case. His article in the July 1982 *MUFON Symposium Proceedings*^[13] states that Betty was "directly exposed" to the UFO for "5 to 10 minutes" and Vickie "3 to 5." By the time Betty arrived home shortly before 22:00, she already had "red blotches" on her face, and over the next four days her health "degraded ... eyes swelled closed, the red blotches became blisters of clear fluid, and she was weak with diarrhea and nausea." Vickie took Betty to the hospital, where she was admitted "as a burn patient," and over "the next several days [she] lost patches of skin on her face and about fifty percent of her hair fell out." The caption of a photo of Betty, depicting two areas of denuded scalp, reads, "Betty Cash, back of head showing approximately 50% loss of hair." Another of the article's accompanying images was the same hand photo shown earlier, its caption reading, "Vickie Landrum. A sore on the back of her left hand which has not healed."



The same photo of back of Betty's head as cited above, but a higher-quality image from a television program

In 1998, Schuessler published *The Cash-Landrum UFO Incident*, a book which, though largely anecdotal, contains passages that faithfully portray Betty's hospital records.^[14] According to his presentation (which in a couple of spots leaves me a bit hazy as to whether a date-unspecified event took place during her first hospitalization or her second), Betty was initially admitted as a burn patient to Parkway Hospital in Houston on January 2, 1981, four days after the UFO incident, with initial complaints of "swelling of the eyes, scalp, and face, along with a terrible headache," and was discharged on the 19th (p. 88). The consulting dermatologist, Dr. Solomon Brickman, noted areas of swelling and crusting of the scalp, face, and eyelids, which he diagnosed as cellulitis and treated with antibiotics and steroids (pp. 90-93). He made no mention of alopecia, nor did admitting physician Dr. V.B. Shenoy who, per Schuessler, "specifically noted that Betty had little, if any, hair loss" upon admission (p. 88). An EEG and CAT scan of the head were negative (p. 90), as were sinus x-rays, and neurologist Dr. K. Kumar concluded that her head pain was "most probably due to severe tension headache" (p. 104).

Betty was readmitted to Parkway on January 25th for similar complaints as well as diarrhea and alopecia, and remained hospitalized until February 9th. Detailed ophthalmologic findings by Dr. Joseph Darsey on January 26th indicated no significant abnormalities, though some small areas of residual red, dry, and scaly skin of the forehead and eyelids were seen. Her neurological exam on the 29th by Dr. Kumar was again unremarkable. Only upon this admission, nearly a month post-incident, were areas of alopecia noted, which Dr. Kumar described as "two large areas of complete hair loss on either side of the head in the parietotemporal region." Dr. Brickman referred to them, per Schuessler, as round spots within which were areas of black hair regrowth (not the more typical post-irradiation white or gray), and his clinical impression was "alopecia areata" (p. 93), an autoimmune condition sometimes triggered by emotional stress but unrelated to radiation exposure. This diagnosis was supported by scalp biopsy (p. 94), though Dr. Rank takes issue with the pathologist's interpretation of it (pp. 109-111).

Betty was hospitalized again, primarily for skin issues, from May 27th through June 1st of that year at Lloyd Nolan Hospital in Alabama. In addition to multiple other lesions common to almost anyone her age, Dr. Whittaker (no first name given, and also spelled "Wittaker" later in the book) noted areas of erythema, especially on the anterior and posterior aspects of the lower trunk and upper thighs, including the buttocks. He described many of them as "almost like a [round] ringworm-type lesion," and others as more irregular in shape (pp. 96-97). No definitive diagnosis was mentioned regarding the skin, but he did comment that her "chronic bowel problems" still persisted. She was hospitalized twice more between September 29th and October 17th for "chronic bronchitis and chronic obstructive pulmonary disease."

In Schuessler's words, "The effects of the radiation exposure were becoming more pronounced," so Betty was readmitted to Lloyd Nolan from November 26th to December 7th, her primary complaint being pain in her chest and left arm (p. 100). Her exam revealed a normal BP of 120/70, a "normal" chest x-ray, unchanged EKG, "no edema" of her legs, and no cardiac "rubs" often heard with pericarditis. (In a later, anecdotal chapter [p. 125], Schuessler says she was admitted on the 28th, had "swollen legs ... and low blood pressure," and that her doctor said she had "pericarditis ... secondary to radiation exposure.") After "2-3 days in CCU," a heart attack was ruled out. The consulting dermatologist noted several skin lesions of concern, given the patient's oral history of "radiation exposure," and, per Schuessler, the clinical impression was "radiation

dermatitis. She had biops[ies] of skin and [the] report was pending at the time of discharge.” When it became available (pp. 100-101), two of the specimens turned out to be seborrheic keratoses (waxy, superficial growths) and the third “hyperkeratotic epithelial hyperplasia” (a descriptive phrase, essentially translating to “thickened skin” like a callus). Both conditions are benign and extremely commonplace, and neither is caused by radiation, ionizing or not.

She returned to the hospital in March 1982 (p. 101) for more skin lesions (“same results as before”) and continuing chest and arm pains (“poor exercise tolerance”). On July 4, because “her problems were continuing to mount,” Betty underwent a bone marrow aspiration and biopsy, along with a standard CBC/blood count (pp. 101-102). The white cells and platelets in her blood were normal in number and appearance. Her red cells were slightly small (common, and typical of iron deficiency). The marrow studies confirmed a “marked decrease” of stored iron, but were otherwise normal and negative for any evidence of marrow damage due to ionizing radiation. Per Schuessler, “Betty continued to be hospitalized several times each year due to a combination of the aforementioned problems.”

Incongruity and Quandary

Skin blistering and non-healing of sores for at least 1½ years, if caused by ionizing radiation, should require an exposure sufficient to kill within a couple weeks—unless it is directed to only a small area (as in targeted radiation therapy) or, rather than deeply penetrating, is only of a superficial, skin-deep nature. If the UFO’s emitted radiation was superficial, how could it account for the deeper “radiation sickness” complaints of nausea, vomiting, diarrhea, and the rest? If penetrating, how could Betty have survived for 18 more years (to age 69) when enough radiation to cause, for example, diarrhea for more than a few days should kill in just a few more? (Vickie lived another 27 years to age 83, and Colby survives to this day.)

Dr. Rank’s aforementioned assertion that “both women had symptoms of radiation sickness,” while also recognizing that “there were no well documented changes in the blood,” creates a quandary, since the absence of such blood abnormalities indicates internal exposure of less than 50 rem, insufficient to cause the various symptoms of “radiation sickness.” This is one reason why, in his generous 1982-83 correspondence with me,^[15] Rank suggested I read *The Medical Basis for Radiation Accident Preparedness*, which he indicated “should answer all of your questions.” My hospital library obtained a copy for me, and though the book actually answered none of them, I did find interesting a discussion of a man in Japan who had suffered only a small dose of penetrating whole-body radiation despite several thousand rem locally to one hip. (I can’t recall, but I think a radioactive particle may have been trapped in a pants pocket.) But how would this sort of story relate to Betty, whose lack of blood abnormalities indicates deep exposure of less than 50 rem, yet whose “radiation sickness” would have required hundreds more?

Possible Hoax for Monetary Gain?

Philip Klass, whose prior investigations had revealed some of the most “classic” UFO cases to have been apparent hoaxes, wondered whether this incident might have a similar explanation. In a January 1982 letter to Richard Niemtow, M.D., a radiation oncologist who also (with Dr. Rank) consulted to MUFON on this case, Klass explained that “as a senior editor with *Aviation Week & Space Technology* magazine ... [which is sometimes] referred to as ‘Aviation Leak’

because of our publication of [sensitive] material ... I can assure you that during my nearly 30 years ... we have never received a 'leak' indicating that the U.S. Government knows anything more about UFOs than it has made public. Based on [our] excellent sources, I can assure you that IF the principals ... were indeed exposed to radiation, that it did not come from any 'secret weapon' ... [but rather] would represent powerful evidence to support UFOs as extraterrestrial vehicles. But my gut instincts suggest a more prosaic explanation."^[16]

Later that year, Klass inquired to John Schuessler about the principals' prior health and was told, "Several years [pre-incident], Mrs. Cash had some severe health problems, but had recovered."^[17] It would be many more years before Schuessler would release Betty's medical records revealing that prior cardiac surgery, but in July 1983 (and again three months later, after receiving no reply), Klass asked Schuessler, "Is it not true that Mrs. Cash had taken chemotherapy and/or ... radiation treatment for cancer prior to the date of the alleged UFO incident?" Schuessler's brief reply, "Where did you get this information? It wasn't from me,"^[18] denies only his awareness of the information's source, not necessarily of its accuracy. On *The Unexplained*, Dr. McClelland states (at 26:00) that Betty was "economically devastated by the illness that she had after she was radiated" by the UFO and that "later she did get breast cancer and had mastectomies. ... She was uninsured." In Betty's words, "They've ruined my health. They've ruined my life. So what else is there that they can do other than kill me? And they probably would love to do that ... [but] I'm going to be around to fight just as long as there's a fight left in me" (36:29).

As to whom "they" refers, toward the end of the interviews at Bergstrom, Betty asked the Air Force representatives, "Well, who is responsible for us being injured?" Vickie asserted that "it had to be something the government had up there ... and I intend to find it." She also revealed that "I was hypnotized, I have the tape if [anyone wants] to hear the tape. ... I knew I wasn't lying, and I did it because I wanted ... people to know I wasn't lying." The session was conducted in July 1981 by Dr. Leo Sprinkle,^[19] a psychologist known for his work with UFO "contactees." A second session with Sprinkle was conducted at a TV studio and aired on an episode of ABC-TV's *That's Incredible!*, a series which, as described on its Wikipedia page, "featured people performing stunts and reenactments of allegedly paranormal events."

Video of that November 16, 1981, TV program has proven elusive, but I had watched a rerun the following April and recorded the audio of the segment covering the C-L case (I did miss the first 90-or-so seconds). More probative to me than anything of value revealed by Vickie under this hypnosis (which was virtually nothing—listen from 6:53 to 11:10 of the audio)^[20] was a photograph shown of Betty's skin. As memorialized in my correspondence (16 months post-viewing) with the *MUFON UFO Journal*'s "Critic's Corner" columnist,^[21] I recalled observing "a number of round, sunburn-type lesions on her limbs [which looked like they] could be explained by UV light exposure." I added that "a sunlamp would do," but neglected to mention that she would have first covered her limbs with material containing round cutouts.

And returning to the matter of Betty's "later" development of breast cancer, Klass' initial letter to Schuessler asking specifically about any "prior" cancer treatment was dated July 28, 1983. Earlier that day, during a telephone conversation (almost certainly surreptitiously recorded, as I knew Klass' habit to be) with Peter Gersten, a New York attorney and director of Citizens

Against UFO Secrecy, Klass' transcribed notes from that call indicate that he was told, "As far as Betty Cash is concerned, I think several months ago she had her right breast removed because of cancer and she is now receiving chemotherapy." When then asked about any *prior* history of cancer, Gersten's cryptically ambiguous response, "Well, none [*sic*] diagnosis, let's put it that way,"^[22] can justify inferring that she may have noted *something* on self-examination prior to her alleged UFO encounter and only much later was it evaluated and diagnosed as a malignancy.⁴

In pursuit of their quest for compensation for their injuries, Betty and Vickie had engaged Gersten^[23] to file a lawsuit against the U.S. government. As reported in the publication *Texas Monthly*, "The case dragged on in district court for several years and called upon the testimony of officials from NASA, the Air Force, and the Army and Navy, before being dismissed in 1986 because *no governmental agency owned or operated any aircraft fitting Cash and Landrum's description*" (emphasis added).^[24] Three years prior to the case's ultimate dismissal, the Air Force had informed Gersten that "The appeals of your clients' claims for personal injuries allegedly caused by an overflight of an unidentified flying object and unidentified helicopters on 29 December 1980 have been considered and denied."^[25] The letter goes on to state that the Air Force had uncovered "*no evidence of involvement by any military personnel, equipment or aircraft in this alleged incident*" (emphasis added).⁵ Betty and Vickie hired another attorney in 1990 to "reopen the case by showing government officials lied about [their] record-keeping" and to negotiate "the sale of his clients' movie rights,"^[26] but nothing came of either endeavor.

Discussion

The *summa cum laude* status of Cash-Landrum as a "UFO radiation" case rests not upon superficial burns of the sort that can be caused by the sun's UV rays or other sources of non-ionizing radiation, but upon symptoms—among them longstanding diarrhea—ascribed to "radiation sickness" resulting from penetrating, ionizing gamma/X-ray-type exposure. Yet, such irradiation, had it occurred, should have been lethal in a matter of days.

If this case were to be stripped of its "radiation" component, it would still qualify as a UFO close encounter and demand critical scrutiny. Should even one seeming whopper of a falsehood by a principal, such as vividly describing "big globs of hair" falling out within a few hours, justify labeling that person's UFO eyewitness testimony as unreliable? And what, if anything, can be inferred about the reliability of investigators' authentications of extraordinary sightings of, and physical injuries from, UFOs—whether thought to be extraterrestrial or (as in this case) not—absent unambiguously persuasive documentary evidence?

John Schuessler "wrote the book" on this case and, as co-founder of a pro-UFO organization, might be expected to interpret doubtful details in their most positive light. The same might be said of others who offer their expert services as consultants to such enterprises. For example, in Dr. Niemtzow's 1983 *MUFON UFO Journal* article titled "Radiation UFO Injuries," when

⁴ Per Schuessler's book (p. 28), in early 1983 "lumps were found" (via radiography) in her right breast, followed by a right mastectomy (March 29), chemotherapy, and also a left mastectomy (June 23). There is no mention of when Betty may have first felt a lump, though a xeromammogram in early 1981 was interpreted as unremarkable (p. 94).

⁵ Schuessler's book does contain an anecdotal 1989 double-hearsay account (see gpposner.com/CL-Pilot-Hearsay.pdf) of an unnamed alleged military pilot's participation in a multi-helicopter exercise remarkably similar to (including a huge, spark-throwing "diamond" UFO), and possibly at the very time and place of, the C-L principals' alleged sighting.

referencing the Cash-Landrum case's particulars as "reported very professionally by Mr. ... Schuessler" in an earlier article, Niemtzw opines (with the caveat that "I never examined [the principals] or had access to their medical records") that "it would be feasible to assume that [they] might have been exposed to some type of ... ionizing radiation."^[27]

Ultimately, however, Dr. Niemtzw appears to have decided otherwise. In a 1999 Internet posting, ufologist Brad Sparks, though believing that Betty Cash had "bravely endured tremendous [physical] suffering as a result of her unfortunate UFO encounter," delves into technical matters beyond those addressed in this paper to explain why he believes "ionizing radiation or 'radiation sickness'" must be rejected as the cause, instead suspecting exposure to a "chemical agent." He notes that "Radiation oncologist ... Dr. Richard Niemtzw reviewed my findings and agreed that the symptoms did not match those expected for ionizing radiation syndrome."^[28] (My correspondence with Dr. Rank obviously had no such effect.)

UFO researcher and writer Curt Collins' blueblurrylines.com website is largely devoted to Cash-Landrum and is filled with historical documents and other invaluable information (including a detailed report^[29] of Betty and Vickie's exploitation by some notable "myth"makers). In a November 2013 posting,^[30] his link beginning with the words "A Preliminary Report" leads to a large pdf file, the first page of which is a July 1981 handwritten/signed memo by John Schuessler documenting a phone conversation during which Dr. Niemtzw was already opining that the skin issues, as reported, seemed compatible with "an exposure to a chemical substance rather than radiation." Pages 3-7 of that file consist of a letter to Schuessler written three months earlier by Dr. Rank detailing why he, however, felt it "safe to conclude, at this time, that Betty and Vicki[e] sustained radiation damage," though confined to "the skin and the immediate subcutaneous area" with the exposure "not sufficiently [penetrating] to cause sy[s]temic signs and symptoms" (blood abnormalities, nausea, vomiting, diarrhea, etc.). Rank added, "I think it is important to assure Betty that on the basis of the medical information you have provided me, that there are no signs of serious injury to date. You may also reassure Vicki[e] that her cataract was probably a pre-existing condition and not necessarily related to the incident."

Pages 8-18 of the file contain an April 1981 analysis of the case by Allan Hendry, chief investigator for the J. Allen Hynek Center for UFO Studies and author of *The UFO Handbook: A Guide to Investigating, Evaluating and Reporting UFO Sightings*, a book widely acclaimed by leading UFO proponents and skeptics alike for its thoroughness and objectivity. Collins describes Hendry's 11-page analysis as "one of the most valuable pieces of evidence in the case," as it was based largely upon "extremely rare early interview[s] with the witnesses before the case became subject to pollution by manipulation and rumors." Several items of particular relevance to witness reliability:

- Betty tells Hendry that as they approached the UFO, "It killed the motor in the car!" (a phenomenon not uncommonly reported with close encounters). Hendry was "surprised at her new portrayal," since Betty had been telling others, including John Schuessler, that she had turned the engine off herself. When further pressed by Hendry, she continued to insist that "It just quit on its own. ... I was beginning to wonder, 'What if we can't get out of here?'" (pp. 9-10 of the pdf file). Hendry thought this to be likely just a "glitch in this recent retelling," though "Schuessler acknowledges [also] being disturbed about this discrepancy,"

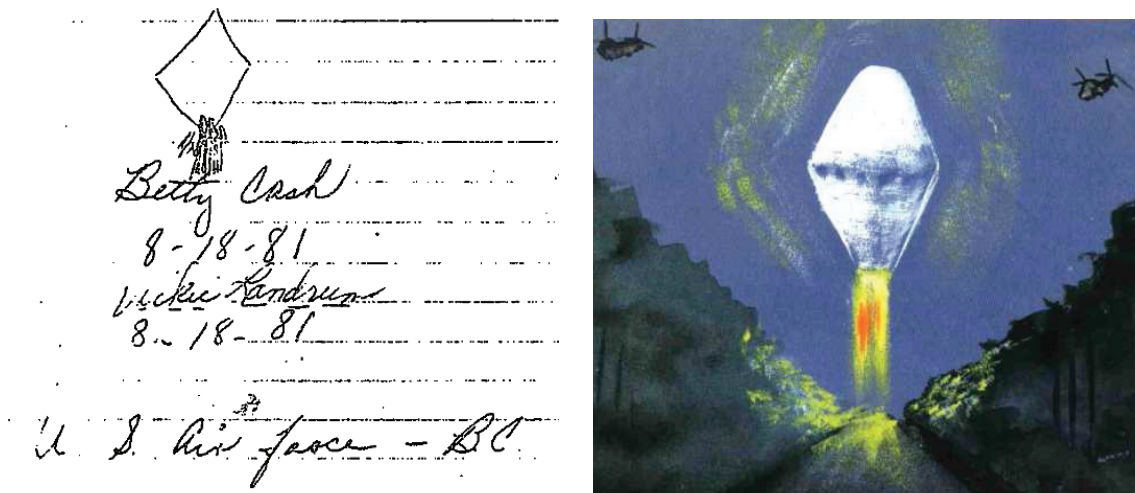
and it would be repeated by Betty during the Bergstrom AFB interview later that year: “I had not killed the motor on the car, I had put it [in] park. The radio was playing on low, but the car completely went dead. I mean, it was like somebody had turned a switch off.”

- Vickie tells Hendry that she didn’t seek medical attention for her injuries “because she didn’t have the money.” He found it “puzzling,” however, that “she continued to use [this] excuse” even after agreeing that “her health insurance would cover the costs” (pp. 13-14).
- Despite the blinding light, the deafening noise, and a helicopter swarm and diamond-shaped UFO the size of a water tower flying off together toward Houston, Hendry could find scant evidence of any corroborating witnesses. “The tabloid coverage ... mentioned one seemingly independent witness” [along with her son and his wife] but they “apparently don’t want to talk about it.” And “a news broadcast arranged by MUFON ... has netted at least one other witness” (p. 14).
- Hendry’s attempts to confirm the helicopter story came up empty. But he quotes a Mr. Nidever from the Army Guard Unit at Ellington Air Force Base in Houston as telling him, “We had a UFO sighting ... [not a few months ago when the C-L incident occurred but] about two years ago. ... They had a helicopter out there. ... Mr. Culverson (with the Army Guard) was involved in that” (pp. 15-16). John Schuessler, in the September 1983 *MUFON UFO Journal*, discusses a public twin-rotor helicopter demonstration event held not far from the Landrums’ home on April 30, 1981 (four months after C-L), which Vickie and Colby attended.^[31] The pilot was identified by Schuessler as Willy Culberson (note the similarity to “Culverson,” though no first name was provided by Hendry), and when approached by Vickie and asked if he had been involved in any previous nearby flights, “He referred to the December UFO event and said he and others had been called out because of the UFO and were there. When Vickie said she was one of the people hurt in that incident, Culberson beat a hasty retreat. Later, he denied via a telephone call [from Schuessler] having been involved.” Per Collins, who devotes another page of his website to this mix-up of UFO incidents, “Based on the evidence, it seems that the pilot mentioned [his] UFO case. Vickie, in her excitement, made an overzealous mistaken connection [to *her* case two years later]. Emotion and the inattention of the investigator [i.e., Schuessler, in his 1983 article, by not recognizing the name similarity in Hendry’s 1981 report] carried the story from there. *The pilot’s [truthful] denial was the foundation of the charges of [a U.S. government] cover-up*” (emphasis added).^[32]
- Schuessler claims to have been led, by Betty and Vickie independently of each other, “to the very place” where they all were able to observe “the roadway that was burned and the trees that were burned” by the UFO’s flames (see *The Unexplained*, beginning at 29:30). Hendry describes a similar expedition (the same one?) with Vickie and Colby, during which Schuessler associate Alan Holt had paced off the estimated distance between Betty’s parked car and the UFO (about 40 m.) and measured the treetop level to ascertain how high the object had been hovering. Though making no mention either way of burned trees, Hendry’s report does note that “later examination showed no [burn] marks on the pavement” (p. 10).

And in a search for evidence of any residual ambient radiation left behind by the UFO, on September 16, 1981, two representatives from the Texas Department of Health surveyed the stretch of road encompassing the site of the alleged incident. Despite making three passes while “following the route [Betty] took” and also gathering three soil samples along the way, “No significant deviations from background radiation were noted.”^[33]

Conclusion: Did The Eyewitnesses Even “See” What They Saw?

Aside from whether or not they were truly irradiated by a UFO, the eyewitnesses’ testimony regarding the most basic aspect of their *sighting*—what the alleged object actually *looked* like—appears utterly unreliable. I refer the reader to Curt Collins’ comprehensive analysis, originally published in the February 2014 issue of *UFO Today* magazine and more recently reproduced (with additional illustrations) on his website.^[34] When queried in 1985 about the portholes and/or lights encircling the object, which are depicted in perhaps all of its subsequent artistic renderings—including the one by Schuessler’s wife Kathy on the cover of his 1998 book—Betty denied having seen or reported any such detail. But of far more significance is the hallmark “diamond” shape—a most uncommon contour that almost certainly defines this celebrated UFO in the mind of anyone familiar with the Cash-Landrum case.



Left: Drawing at Bergstrom AFB by Betty Cash and Vickie Landrum⁶

(Bergstrom interview transcript indicates date to have been August 17)

Right: Illustration by Schuessler’s wife Kathy, used on cover of his 1998 book

During their August 1981 interview at Bergstrom Air Force Base, the signed drawing by Betty and Vickie affirmed their agreement regarding the shape of the craft they had witnessed. However, as early as February 1st of that year, in a transcribed audio recording, Betty stated, “We could not get up close enough to detect what the figure was. Or I couldn’t at least, the lights were too bright.” Several days later, she added in a handwritten narrative that Vickie “said the light was [also] too bright for her to see very much of the figure.” And as revealed by Vickie in her own February 1st recorded account, “Colby swore it looked like a big diamond. I couldn’t tell.”^[35]

⁶ See tinyurl.com/CL-Bergstrom-Drawing, p. 78. Pages 46-81 consist of a 36-page file released by the U.S. Air Force on August 22, 1983, to reporter Billy Cox in response to his Freedom of Information Act (FOIA) request. Also, “Vickie” is misspelled “Vicki” in the text (though not in the title) of the Bergstrom interview transcript.

So what are we to conclude with regard to the reliability of these UFO witnesses' testimony? Despite Betty and Vickie's signed drawing for the U.S. Air Force, was the only principal to have discerned the alleged object's distinctive shape actually a seven-year-old child who may have had the least opportunity of the three to observe it? Do the official hospital records confirm any of Betty's numerous health problems as having been caused by exposure to ionizing radiation? Have significant details of her ordeal been embellished and even contradicted in retellings? Have John Schuessler et al. met their burden of providing compelling evidence that the prevailing narrative of this UFO close encounter and its injurious aftermath, which occupies a hallowed spot in the annals of ufology, is historically sound? Or, as I believe, are there myriad reasons for skepticism of virtually every aspect of the legendary Cash-Landrum case?

Acknowledgments: An e-mail query three years ago from Curt Collins regarding my 1982-83 investigation of this fascinating case prompted me to create my own Cash-Landrum web page. His replies to my e-mails during preparation of this chapter were always not only swift but extremely helpful, and his review of an early draft, which I had foolishly thought might be the final one, was of immense value.

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Note: All gpposner.com URLs are case sensitive, as my website is hosted on a Linux server.

The Weinstein Catalog: Ufological Bullion or Fool's Gold?

Tim Printy

The mere listing of unanswered puzzles is not equivalent to providing unanswerable arguments.

Dr. William K. Hartmann¹

Abstract: The Weinstein catalog of eighty years of Unidentified Aerial Phenomena (UAP) reports by pilots is considered by Unidentified Flying Object (UFO) proponents as an index of 1,305 observations made by dependable eyewitnesses, who could not have been mistaken about what they described seeing. This paper demonstrates that pilots are not the highly reliable observers suggested by the compendium's author, Dominique Weinstein. Like all human beings, pilots make mistakes and can allow their personal beliefs to affect their observations when confronted with something they have never seen before. This author also notes that the inventory contains a significant number of events that have potential explanations or do not contain sufficient information for proper evaluation. In conclusion, it is the opinion of this writer that the list is contaminated with so many poor reports and identifiable sightings that it does not meet its implied objective of demonstrating that pilot reports of UFOs indicate that there is something unknown to science in the sky. In order to meet that objective, these poor cases and Identified Flying Objects (IFO) need to be removed so the best incidents can be carefully examined to see if there is any signal in the noise.

Keywords: Pilots, UFO, Reliable, Error, Explanations

Introduction

In my opinion, publishing UFO lists is a lazy way to make a case that UFOs require serious scientific study. This methodology is similar to coin or stamp collecting, where the collector will try and impress the uninformed observer with a large collection of objects. However, if the collection contains a significant number of items that are worthless, what does it say for the entire collection?

I have examined many cases in various catalogs being produced by UFO groups/organizations and continue to be amazed at how a significant number of events on these lists are identifiable. Even worse is how these same faulty cases can be found in other collections. It appears that all of these various compilations reference each other and assumed that the incidents were properly vetted because they appear on somebody else's directory. When it comes to UFO lists, quantity is more important than quality.

Expert Witness?

One of the UFO lists often cited by UFO proponents is compiled by Dominique Weinstein, who wanted to highlight cases involving pilots and aircrews.² It is the opinion of Mr. Weinstein that pilots are considered to be the most reliable of witnesses:

Training and experience make pilot and crews much more reliable witnesses than others. They are used to unusual meteorological phenomena. They have the added advantage of being able to approach the phenomenon. Sometimes they can even overfly the object, observing it between

*themselves and the earth below. Military pilots are trained to estimate distances, shapes and speed of flying machines.*³

The problem with this reasoning is that, while military pilots are trained to identify objects in the sky, they are only trained to deal with KNOWN aircraft. If they see another aircraft, which they are familiar with, they can approximate details based on the angular size. However, when we are talking about UFOs, we are talking about an “unknown.” Nobody knows if it is five meters or five kilometers in size. Therefore, one cannot approximate distance based on angular size. Without distance, one cannot estimate speed or altitude. The bottom line is that it is impossible, no matter how good a witness is, to accurately determine size, speed, distance, or altitude without having some point of reference. This “unknown” indicates that all the pilots can do is provide a “best guess,” which makes many of these estimates worthless as far as scientific research is concerned. Pilots are highly trained but how good are they at doing their primary job? It is somewhat surprising that the main cause of aircraft accidents is “pilot error.” Out of the 1516 accidents examined by the FAA between 1990 and 2002, 1020 (68%) can be attributed to aircrew/supervisory error.⁴ This does not mean pilots are always making mistakes but it does demonstrate that they are not always dependable to perform the correct action when required. If they are not “perfect” performing their primary responsibility, how reliable can they be as observers when they are busy performing that task?

During World War 2, there were numerous examples of how pilots were prone to making mistakes in reporting what they had seen and did. Ships were sunk that were not even hit, pilots claimed numerous planes shot down when only a few were damaged, and aircrews often simply were mistaken about what they reported. In the Pacific, pilots were often sent out on long tedious missions to scout out the ocean looking for enemy ships/fleets. These were the eyes of the fleet and their reports were extremely important. They were often equipped with optical aid, such as binoculars, had an observer with them, and, probably, had identification manuals to help distinguish between different types of targets. Despite all the training and equipment, mistakes were still common. Shortly after Pearl Harbor, a barge had been identified as a Japanese aircraft carrier and attacked by two aircraft. During the Battle of the Coral Sea, a Japanese scout craft reported seeing an aircraft carrier and cruiser to the fleet. In response, the Japanese aircraft carriers launched a full attack on this target. When the strike made it to the location described, they only found an oiler and a destroyer. Had they not attacked based on this false report, they could have attacked the main US fleet, which was discovered shortly after the strike had departed. After the main battle, an exposed reef had been identified as a carrier, which had the remaining carrier, the Yorktown, send an attack force to destroy it. In the battle of Midway, the Japanese, as well as the American pilots suffered from inaccurate information about each other’s fleet locations and compositions. This resulted in a comedy of errors that contributed to the defeat of the Japanese and could have cost the United States the battle when one strike force from the USS Hornet went in the wrong direction and never attacked anything. All of this indicates that the abilities of pilots to make accurate observations during World War 2 was not very good.

Of course, this is not really comparing apples to apples. It is one thing to mistake the types of aircraft and ships or make a mistake in navigation in the heat of battle. It is another thing to see how pilots react to something they had never, or rarely, seen before. Perhaps the best way to evaluate how reliable pilots are in reporting UFOs is to see how they react to events involving known objects that were unknown to the pilots when they saw them.

Case Study 1: November 5, 1990

On November 5, 1990 a Russian rocket body, used to launch Gorizont 21, re-entered the Earth's atmosphere over the North Sea around 1800 UTC. It was seen by many pilots and their accounts indicated that what they had seen was something truly extraordinary.

Some of the primary witnesses to the event were some RAF pilots flying Tornado aircraft over the North Sea and commercial pilot, Mike D'Alton, who was piloting a 737 from Rome to London and located over the Alps.

D'Alton's description of the object was:

What we saw was one large, fairly bright light. Ahead of it was a formation of three fainter lights in a triangle. Another faint light was behind the large light and was slightly slower...we watched the lights for two minutes then it took a lightning-fast right-angle turn and zoomed out of sight.⁵

British MOD files contained message traffic related to the incident. It gave two descriptions of the event. The first came from a civilian airliner:

ONE LARGE AEROPLANE (SHAPE). 5 TO 6 WHITE STEADY LIGHTS. 1 BLUE STEADY LIGHT. CONTRAILS FROM BLUE AREA.⁶

Several British Tornado pilots also saw the re-entry. Their description was also in the message:

UFO APPERRED [sic] IN OUR RH SIDE SAME LEVEL WE WERE TRAVELLING AT MACH POINT 8. IT WENT INTO OUR 12 OCLOCK AND 'ACLLERATED [sic] AWAY. ANOTHER 2 TORNADOS SEEN IT AND POSSIBLE IDENTIFIED IT AS A STEALTH AIRCRAFT.⁶

When writing about the event in 2003, one of the Tornado pilots wrote the following:

The UFO did not look like any aircraft that I know to be in service with any air force either today or at the time of the sighting.⁷

He also stated:

This was definitely not a Russian satellite- I am 100% certain of that. This was a large "aircraft" and I could see detail of the lights and the engine area. I have never since seen anything like it.⁸

It is interesting that these highly trained individuals felt that what they had seen was not rocket debris re-entering the earth's atmosphere but some sort of piloted craft of large size that had incredible capabilities of speed and maneuverability. Even after over a decade, one of the Tornado pilots was still convinced he had seen an exotic craft of some kind even though all the evidence indicated otherwise. Most important, this event involved multiple pilots making the same kind of error. So intense was their belief in what they think they saw, they could not be convinced that what they saw was something else.

Missing from all of the writings of this incident are the pilots who saw the object and determined that what they had seen was some sort of re-entry. Unfortunately, their reports are never

documented and it is only the spectacular reports that make it into the UFO literature. How many cases, in the Weinstein catalog, involve other pilots who saw the event listed, were able to identify the object for what it was, but made no report to the news media or government agency?

Case Study 2: Ghana July 27, 1987

The July 29, 1987 edition of the Ghana times described a UFO event seen over the southeastern region of the county. On the ground, was a Ghana Air Force pilot, who reported to US officials his observations of the UFO. The official, who interviewed the pilot, implied he was a very reliable witness:

...A QUALIFIED JET FIGHTER PILOT. HE IS WELL KNOWN TO THE DAO AND OTHERS AS A SERIOUS PROFESSIONAL, NOT GIVEN TO FLIGHTS OF FANCY OR TO ANY DESIRE TO ATTRACT ATTENTION TO HIMSELF. HE SEEMED TO HAVE BEEN EMBARRASSED (AS WELL AS MYSTIFIED) BY THIS UFO SIGHTING AND PROVIDED THE DETAILS RELUCTANTLY, MAINLY BECAUSE THE AIR FORCE COMMANDER HAD ASKED THE DAO TO HELP IDENTIFY THE OBJECT.⁹

Based on this description, one would expect his observations to be highly accurate. Additionally, he was on the ground and did not have to worry about flying his aircraft. Therefore, all of his observations were without any distraction. He described the UFO as follows:

THE UFO FOLLOWED A GENERAL NORTH-TO-SOUTH COURSE AND DISAPPEARED OVER THE HORIZON OF THE GULF OF GUINEA. THE INITIAL IMPRESSION OF THE UFO, AS IT APPROACHED THE VICINITY OF ACCRA FROM THE NORTH, WAS THAT IT MIGHT HAVE BEEN A FALLING METEORITE. VERY QUICKLY, HOWEVER, THE UFO STOPPED FALLING AND STARTED TO CLIMB. AS IT WAS GAINING ALTITUDE OVER ACCRA AND THE OCEAN, DETAILS OF THE UFO, COULD BE SEEN QUITE CLEARLY BECAUSE OF ITS OWN LIGHT EMISSIONS AND THE CLEAR EVENING SKY. WHEN OBSERVED MOST CLEARLY, THE UFO APPEARED TO BE AT AN ALTITUDE OF ABOUT 15,000 FEET. ITS GENERAL SHAPE WAS SIMILAR TO A VERY LARGE AIRCRAFT FUSELAGE OR MISSILE BODY. ITS COLOR WAS METALLIC, ALUMINUM-LIKE. IT APPEARED TO BE ABOUT TWO OR THREE TIMES THE SIZE OF A BOEING 747 AIRLINER. BUT IT DID NOT SEEM TO BE PRODUCING ANY SOUND.

AT FIRST, PARTICULARLY WHILE IT WAS DESCENDING, THE UFO DISPLAYED A RELATIVELY LARGE SINGLE SOURCE OF LIGHT, YELLOWISH IN COLOR, ORIGINATING FROM THE CENTER OF ITS TRAILING END, LIKE A ROCKET. AT ABOUT THE TIME THE UFO STOPPED DESCENDING AND BEGAN TO CLIMB, THIS SINGLE, YELLOWISH LIGHT DISAPPEARED, AND EIGHT SMALLER LIGHTS APPEARED. THESE WERE BLUE IN COLOR AND WERE ARRANGED IN A CIRCULAR CONFIGURATION AROUND THE END OF THE UFO—LIKE RELATIVELY SMALL, JETS. THESE EIGHT BLUE “JETS” SEEMED TO BE THE UFO’S SOURCE OF PROPULSION AS IT DISAPPEARED OVER THE HORIZON.

THE AIR FORCE PILOT ADDED THAT HE HAD HEARD OF OTHER SIGHTINGS. APPARENTLY OF THE SAME-OBJECT, THAT HAD INCLUDED THE SOUND OF “TWO EXPLOSIONS,” AND HE SPECULATED THAT THESE COULD HAVE BEEN SONIC BOOMS. BUT HE WAS APPARENTLY NOT AWARE OF ANY SOUND PRODUCED BY THE UFO AT ANY TIME DURING THE PERIOD OF HIS OBSERVATIONS.¹⁰

Does this all sound familiar? What was actually seen was the re-entry of another rocket used for the launch of Cosmos 1870 on July 25th. Like the November 5, 1990 case, the pilot described the craft he saw based on what he thought he saw. His personal biases affected his interpretation of the actual event.

Statistics and Pilots

One might consider these case studies “cherry picking” or only looking at the “low hanging fruit.” There are a great number of such cases in the UFO record involving meteors and space debris. However, they are not the only sources of UFO reports made by pilots. The Blue Book files reveals pilots reporting meteors, satellites, space debris, planets, stars, and balloons, among other things, as UFOs. They were not making up stories but were just reporting they had seen something unusual that they could not identify. In some cases, it was nothing more than a light moving across the sky. In other incidents, the object was described as a craft of some kind.

When Dr. Hynek examined the Blue Book files in the 1970s, he quantified the number of UFO reports made by pilots that could be explained as being 88% for single pilots and 76% for multiple pilots.¹¹ Hynek’s remark about this statistic was:

What we have here is a good example of a well-known psychological fact: “transference” of skill and experience does not usually take place. That is, an expert in one field does not necessarily “transfer” his competence to another one.¹¹

Allan Hendry had a smaller and more limited database to work with. Most of his reports came from civilian air pilots. Still, his statistics came up with a value of 75% of mistaken identity.¹² This is not much different than what Hynek determined from the Blue Book files.

All of this indicates that the belief that pilots are experts at observing and correctly evaluating unknown objects in the air is a false premise. If pilots are mistaken 75-88% of the time when reporting UFOs, what does that say for a database that contains raw or improperly investigated reports? Can we draw the conclusion that roughly 80% of these cases are probably misidentifications? If pilots are wrong four out of five times, what does it say for the remaining twenty percent?

Looking at the Weinstein Catalog Closely

The Weinstein Catalog is often treated as an important reference to ufologists. The index appears to be quite extensive but I doubt that many UFO proponents have looked at it beyond the numbers. My initial examination of the list revealed that, by my count, 423 cases had no specific date or time, which, by any reasonable standard, defines the case as “insufficient data.” This means that, before investigating a single case, almost a third of the cases should be rejected as containing inadequate information for analysis.

After removing the 423 insufficient data cases, there are still 882 cases remaining. When looking at these sightings, one quickly comes to the realization that a significant number use a single source of information. One case that I examined was August 15, 1975 from Stockton, California. The list gives us several sources, which makes one believe that it must have been thoroughly investigated and used several independent sources of information. However, as one pulls on the string, the entire garment unravels. It appears that all of these individuals obtained their material

from one single news story that was missing a lot of pertinent data. One cannot even tell which direction the object was seen from the available information. The most likely cause of the sighting was a minuteman rocket launch but we cannot verify it for sure because the data was inadequate. Looking at these cases closely, takes time and resources. To date, I have examined forty-five of these cases and have been able to find potential explanations for them. Additionally, Ted Molczan's database of visually sighted space debris re-entries identifies ten more as being space debris re-entries¹³:

Case	Description	Explanation	Investigation information
48.04.09	Montgomery, Ala. One silver disc-shaped object with a dark cable and sphere underneath.	Possible balloon	<i>SUNlite</i> 13-2
48.07.24	Near Montgomery, Ala. Near-collision with cigar-shaped object with two rows of portholes.	Probable fireball	<i>SUNlite</i> 8-2
49.01.04	Hickam AFB, Hawaii. One large round object circling the area at 3000 feet (914 m) high.	Possible balloon	<i>SUNlite</i> 13-1
49.06.08	Haines, Alaska. One very bright blue-green ball of light gradually disappeared	Probable fireball	<i>SUNlite</i> 12-3
50.02.01	Arizona. An object with a trail of smoke	Probable fireball	<i>SUNlite</i> 8-1
50.03.08	Dayton, Ohio. A huge round and metallic-looking object hovered then climbed away.	Venus	<i>SUNlite</i> 13-2
50.03.20	Stuttgart, Ark. A disc with 9-12 portholes and a light on top	Possible fireball	<i>SUNlite</i> 10-2
50.06.24	Mojave Desert, Calif. A cigar shaped object	Possible fireball	<i>SUNlite</i> 6-3
51.09.23/51.07.23	March AFB, Calif. A round silvery object at high altitude	Probable research balloon	<i>SUNlite</i> 9-5
52.04.29	Goodland, Kan. A white blinking light.	Possible fireball	<i>SUNlite</i> 8-2
52.06.02	Fulda, Germany. A white object flew at great speed	Possible balloon	<i>SUNlite</i> 8-3
52.11.26	Goose Bay, Canada. One bright orange and red light, no definite shape.	Probably Venus	<i>SUNlite</i> 12-6
52.12.15	Goose Bay, Canada. A red light maneuvering and becoming white.	Possibly Altair	<i>SUNlite</i> 12-6
52.12.29	Japan. A UFO emitted 3 beams of light.	Probably Venus	<i>SUNlite</i> 8-6
53.02.06	Rosalia, Wash. Blinking white light turned and disappeared	Possible weather balloon	<i>SUNlite</i> 10-1
53.02.11	Libya. A disc passed the plane	Probably Venus or Jupiter	<i>SUNlite</i> 6-1
54.05.24	Dayton, Ohio. Circular object below plane	Subsun	<i>SUNlite</i> 7-1
54.06.01	Boston, Mass. A big white disc flew against the wind	Probable research balloon	<i>SUNlite</i> 11-3
54.11.12	Kentucky, Ohio, Indiana. Interceptors chased targets tracked on radar	Probable research balloon	<i>SUNlite</i> 5-2
56.01.22	Gulf of Mexico. A big, elongated light with yellow lights	Possible fireball	<i>SUNlite</i> 11-1
56.04.08	Schenectady, N.Y. A white light hovered and disappeared at great speed.	Probably Venus	<i>SUNlite</i> 9-2

57.03.09	150 miles (278 km) east of Jacksonville. Pilot made abrupt turn to avoid white-greenish object.	Probable fireball	<i>SUNlite</i> 5-1
57.03.29	Bahamas. A bright pulsating object.	Probably Jupiter	<i>SUNlite</i> 8-2
57.06.30	Belo Horizonte, Brazil. A bright red orange disc maneuvered around the plane	Possibly related to known daylight fireball	<i>SUNlite</i> 6-5
57.08.27	Dry Tortugas, Fla. One object with a bright red to reddish-yellow pulsating light.	Probably Venus	<i>SUNlite</i> 12-4
57.10.10	A huge bright red fireball with a blue tail flashed across the sky.	Probable fireball	<i>SUNlite</i> 13-5
58.12.18	Atlantic Ocean. One reddish object with a red trail of fire, no sound. (could be a missile: Blue Book)	Atlas missile launching SCORE satellite	<i>SUNlite</i> 12-6
59.02.24	Pennsylvania. Three bright yellow-orange lights changing colors	Refueling operation	<i>SUNlite</i> 9-1
59.07.11	800 miles (1482 km) east of Hawaii. Pilot saw bright light and two smaller lights	Probable fireball	<i>SUNlite</i> 8-4
59.09.13	Bunker Hill AFB, Ind. White pear-shaped object observed for 3 hours	Probable research balloon	<i>SUNlite</i> 5-6
60.07.02	Near Puerto Rico. Aircraft followed by bright object for twenty minutes	ICBM test launch	<i>SUNlite</i> 7-3
61.04.24	Pacific. A white-reddish light	Echo Satellite	<i>SUNlite</i> 13-2
61.05.20	Tyndall AFB, Fla. White-orange object observed. Disappeared when craft approached	Probably Venus	<i>SUNlite</i> 6-4
61.09.21	Aircraft near Wake Island. Bright object with halo	Soviet ICBM test	<i>SUNlite</i> 5-5 and 7-1
62.08.22	Between Wichita and Liberal, Kan. Guymon Airport, OK. (2 entries). A bright object flew from east to west, hovered, then disappeared. One bright object traveling very fast.	Possible fireball. Jupiter.	<i>SUNlite</i> 13-4
62.12.22	Argentina. A bright object hovered near the ground, climbed and went away	Possible moon rise	<i>SUNlite</i> 4-6
63.03.11	Oahu. National Guard pilots report bright light with a trail flying at high speed	Vandenberg ICBM test	<i>SUNlite</i> 4-5
66.06.26	Between Hawaii and Wake island. One bright light seemed to expand like a gas bubble with bright blinking light in center	Vandenberg ICBM test	<i>SUNlite</i> 4-6
66.09.30	Above Virginia. One light seen for twenty seconds.	Wallops Island Nike-Ajax missile launch.	<i>SUNlite</i> 12-5
67.01.22	Pacific Ocean. One milky pulsating light surrounded by a glowing bubble of gas.	Vandenberg ICBM test	<i>SUNlite</i> 12-1
74.01.26	Portugal. V-formation of 10-15 orange saucers	Molniya 1-25 BOZ re-entry	Molczan, Ted
75.01.15	Japan. 15-16 greyish-blue object flying in two formations	Cosmos 701 KDU re-entry	Molczan, Ted
75.01.15	Groton, Conn. and R.I. (2 entries). One large greenish-white solid object heading east. One large green disc heading east.	Wallops island Aeronomy test.	<i>SUNlite</i> 13-1

75.08.14	Stockton Airport, Calif. A disc emitting a bright orange light became dark red when climbing at great speed.	Possible Minuteman II missile test launch	<i>SUNlite</i> 13-4
76.09.19	Portugal. Near collision with blue oval-shaped object with rows of red and white lights	Molniya 1-35 BOZ re-entry	Molczan, Ted
77.03.12	South of Syracuse N.Y. One round bright white object. Strong effects on the autopilot and three compasses.	Probably Venus	<i>SUNlite</i> 11-5
79.08.20	Poland. Four light radiating objects flying in triangular formation.	Cosmos 1122r re-entry	Molczan, Ted
82.03.17	125 miles (232 km) s. of Jacksonville, Fla. Three objects with highly illuminated vapor trails.	Submarine Trident C-4 multiple missile test launch	<i>SUNlite</i> 12-2
83.12.02	Poland. An object with a light in front and a flaming trail	Gorizont 18r re-entry	Molczan, Ted
84.07.27	Pennsylvania and Michigan. A rocket shaped object paced a plane and three metal looking spheres with a luminous trail pass the plane.	Cosmos 1569r re-entry	Molczan, Ted
87.12.12	Fort Wayne, Ind. Two object both with two rows of lights approached rapidly.	Raduga 21r re-entry	Molczan, Ted
89.10.24	Northern Ind. A boomerang-shaped object with a beam of light passed the plane	Molniya 1-76 BOZ re-entry	Molczan, Ted
90.11.05	Germany and North Sea. A formation of UFOs and two mysterious lights.	Gorizont 21r re-entry	Molczan, Ted
93.03.31	Ireland/UK. Two bright whitish spots with vapor trails (possible Russian rocket re-entry)	Cosmos 2238r re-entry	Molczan, Ted
95.11.17	Near Long Island, N.Y. One bright light with green tail passing very fast from south to north.	Probable fireball	<i>SUNlite</i> 11-6

Notice that many of the sightings involve satellite re-entries and rocket launches, which should have been checked before even putting them on the list. Other sources of these reports involved fireball meteors, satellites, planets/stars, balloons, and, in one case, possibly the moon. These are all objects that pilots should be familiar with but still misidentified. All of this data refutes Mr. Weinstein's claim that pilots are unlikely to make observational errors.

Improving the Catalog

While I am dismissive of the Weinstein list, I am also of the opinion that ufologists could improve it by promptly eliminating all the cases that have potential explanations or lack sufficient data for evaluation. Of course, this would probably reduce the record to maybe a hundred, or fewer, cases. Once these cases are identified, another culling must occur to eliminate those cases where sufficient data is available for evaluation. While a date and time might be available, one also requires information such as angular size, direction, and elevation to properly evaluate the event. My point is that if one is going to create a list, make it worth something that withstands scrutiny instead of using the shotgun approach of padding it with an excessive number of bad cases. As Brian Dunning once noted, *"You can stack cowpies as high as you want, but they won't turn into a bar of gold."*¹⁴

I doubt that my criticism will be accepted by many UFO proponents. Ufological lists are akin to propaganda pieces used to impress the uninformed. How many times have UFO proponents

mentioned that Weinstein's catalog contains over 1300 cases made by expert witnesses? They say this as matter of fact without even looking, or mentioning, the flaws associated with the list. Ufology needs to set, and meet, higher standards than this if they want the respect of skeptics and science. They need to demonstrate that they can tell the difference between garbage and gold.

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The Changing Case of Próspera Muñoz: An Abduction Remembered over 41 years?

José Ruesga Montiel

Abstract: Some strange events that take place between 1946/1947 and that its protagonist begins to remember in 1980, attract the attention of the Spanish ufological community. The author considers that it has not been dealt with properly and was publicized hastily, so he commits himself to an unhurried investigation in which he gives the witness the benefit of the doubt. This work synthesizes a view of the process followed for ten years to unravel the reality of a supposed abduction attributed to extraterrestrial beings that seems to have changed the life of the protagonist.

Keywords: Abduction, UFO, Hypnosis, Implant, Spain

Knowing the Facts

I confess that I should have written a whole book on the circumstances of the present case, but I was always very prudent not to harm the witness, despite the fact that the documentation that I accumulated during ten long years of following it would have allowed me to do so without much effort. I just tried to close the case with my work “Próspera Muñoz, conclusion?” which was published in November 2001¹ and subsequently under the same title in 2013.²

We are therefore faced with what is undoubtedly one of the most famous Spanish cases, synonymous with the term abduction, which achieved that status thanks to what I call shared irresponsibility. Therefore, we are going to address in a few pages the history of one of the most archetypal cases in Spanish ufology, in which I personally got involved out of a feeling of solidarity with the witness. Does this mean that I agreed with everything in her account? No, certainly not, but I disagreed with how the investigation had been approached and, what is worse, with the way it was published.

My first news about the case came through an Argentine colleague and friend, Mario Luis Bracamonte Báez of the Centro Ovnológico Riocuartense (the Ufological Center of Río Cuarto)—sadly now deceased—who in one of his many cassettes that we used as a means of exchanging letters, he spoke to me of the participation of Antonio Ribera in a Congress on the subject in which his paper “Próspera Muñoz: a Case of Abduction Remembered Thirty Years Later”³ was presented. This was in 1982. (Ribera was a prolific and early Spanish writer on UFOs.) In 1984 Ribera’s book *En el túnel del tiempo* (“In the Time Tunnel”)⁴ appeared, and in the chapter bearing the same title as his earlier paper he reveals the experience of Próspera Muñoz. It is all reasonable and apparently consistent if it weren’t for the fact that, as we know from the story itself, the witness begins to remember the experience in 1980, in 1982 she comes into contact with Ribera, and already that same year he makes the story public, to later release it for public consumption in 1984, when the book was published by Planeta. In summary, the story is as follows:

One summer day in 1946 or ’47, little Próspera, 7 or 8 years old (Figure 1), along with her sister Ana, 11 or 12, are in a small house that their family had in the country outside Jumilla (province of Murcia, southern Spain) since 1942 (Figure 2). They see a shiny object approaching over the fields, which at first they mistake for a car. They think that it is their father, since the two girls



Left. Figure 1. Peri (Próspera's nickname), as a child, photograph of her First Communion, provided to the author by Próspera herself. (Author's archives.)

Right. Figure 2. Villa Próspera (the name of the family house, from which Próspera Muñoz got her name). Próspera Muñoz at the door of the little house where the events occurred. Photograph provided by José M^a Semitiel, 1990. (Author's archives.)

were spending time with an uncle of theirs (about 40 years old), and their father had the habit of visiting them on weekends. But they realize that it is not a car when it moves cross country. Her sister, nervous, urges her to close the window. They observe how the object silently passes a short distance from the window, and lands a short distance from it (Figure 3). Ana tries to close the window, but this action is not completed when two men enter through the door.

They were both wearing white one-piece outfits; otherwise, they seemed completely normal to us. One looked young, in his early twenties, tall and thin; the other, shorter and sturdier, looked about forty-five and was undoubtedly the boss. His hair was very black and completely pasted on his skull, so much so that, when I remember him, I wonder if it wasn't painted on; his eyes were very black and piercing. I remember the young man less: with all naturalness, he asked for a glass of water.



Figure 3. Landing site with the object's trajectory depicted. The pine tree in the picture did not exist at the time of the event. Photograph provided by José M^a Semitiel, 1990. (Author's archives.)

What happened next is rather mundane: they talked about a calendar on the wall, they did not drink the water, they were interested in the pots in the cupboard, and they talked between themselves

about what seems to be something that would affect the girls in the future. When Ana, the elder, left, she did not allow Próspera to open the window, through which an intense light entered from the place where the object was landed, causing them to fall to the ground. She says they lost consciousness and that their uncle arrived, alarmed from seeing a plane (*sic*) take off above the roof of the house.

In the afternoon two people visited, both wearing brown corduroy suits and caps; according to Próspera, one of them was the younger one from the morning. They examined the surroundings of the house and gave her a few suggestions for them not to go to the place where the object had landed. For a few days the door to that room was blocked and when it was opened the food was in poor condition and the girls' dresses seemed to have lost color. Próspera noticed a metallic object on the table, like two cherries joined by their stems, which she hid in an outer wall of the house.

At night, the three of them slept in a room in the front of the house, the uncle in a makeshift bed on the floor between those of the girls. Próspera woke up to see a man looking in the window. She recognized the younger one from the morning, but now he was dressed in a diving suit, with a helmet and everything. So far, these are blurred memories that after a hypnosis session were translated into a real abduction. With the young man were others, including a strange woman with long hair and a circle of light.

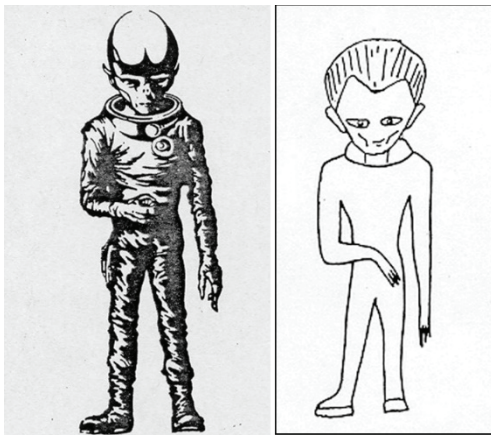
In 1985 a debate of the case was proposed in the magazine *Cuadernos de Ufología*, requesting the opinion of several physicians. The double number 10-11 of the 1st epoch collected Ribera's account and the opinion of Dr. Antonio Bueno Ortega⁵; number 13-14 would include the verdicts of doctors Antonio Petit Gancedo, Pedro Vicente Rubio Gordo, and Vicente Manglano Baldoví.⁶ Of all of them, the most critical and harsh was that of Dr. Bueno. There were opinions for all tastes, including that of some skeptics who considered it a waste of time to dedicate effort to the investigation of abductions. As I said, Ribera's attitude and the opinions expressed on a poorly elaborated and incomplete account, gave me the impression that the witness deserved, at least, the attention of an investigator to verify and/or better understand the intricacies of the case and its content. I started that investigation with two premises: attentive listening and without haste. Then I added something else, to seek support from those who would know more than I in certain fields of knowledge, and I did that by seeking the ideas of various doctors and graphologists. Thus, on September 16, 1985, I contacted Ribera, expressing my interest in dealing with the case, which his kindness made possible on October 15 of the same year.

In a letter dated December 15, 1985, Próspera tells me what seems to be the forgotten part of her experience. She writes:

... I went with them carried by another individual, much taller than them, who they told me was a doll. Another was carrying my dog, who had been made to sleep so that he would not make a fuss.

When we got to that great light, it was a vehicle just like the one they had brought in the morning, but much bigger. It is impossible for me to describe it in detail, I have not even been able to do it under hypnosis, I only remember a dome and a wing that surrounded it; the size could be that of a two-story villa. They deposited me on a platform, where they all came to see me, there would be no more than ten or twelve, they showed great curiosity, but no one approached me by more than two or three steps. Those who had brought me took off their diving suits and were left wearing the same

as in the morning. We went up a ramp into the vehicle. It was a circular room, to my left there was a series of little screens with different images, now I know it was a closed-circuit television with which they kept an eye on all the surroundings. Several of them were seated at a long table, operating buttons and levers. Those chairs made of an unknown material and without legs caught my attention. The only familiar thing was a movie-like screen in the background. They took me to a device that was manipulated to make a screen appear, with images that at first I did not recognize. They were made up of multi-colored horizontal lines. When I managed to discern the images, I saw that it was us girls, with the dog, the donkey and Uncle Juan. They had filmed us one afternoon before all the events. We seemed to be wrapped in a kind of cloud or light that came out of us, in bluish tones... They told us that this halo was the reason why they visited us, that there they could read the quality of our feelings... The animals appeared without that halo. [Figure 4.]



Dibujo de la portada de Cuadernos de Ufología 10/11 primera época

Dibujo realizado por José Mª Semitiel, esposo de Próspera

While we were looking at these scenes one of them approached, saying: "They are there now." They told me it was time for us to get ready, we went up a vertical staircase in the center, to the dome. There were two sitting in front of some panels that were strange to me. The dome opened diametrically, and we got out and positioned ourselves on top of the wing. They made me look at a star that was getting bigger and bigger. There we go— they told me—above all do not be scared. A luminous circle appeared on the wing, about 80 centimeters in diameter, as if they had lit up a giant lantern from above; they assured me that it was an elevator.

Figure 4. Comparison of the humanoid drawing published on the cover of *Cuadernos de Ufología* journal issue No. 10-11 and the drawing made by Mr. Semitiel (Próspera's husband). (Author's archives.)

They pushed me into the circle and I began to ascend, slowly at first, then accelerating at an impressive speed. After a while, it slowed down and I felt like they were taking me out of there with great care. We were on a framework of beams, something like a horizontal scaffold. There were several more of them dressed in black mime suits, and the lighting was extremely limited. We walked on one of the beams, their boots adhered to it, but not my shoes, so they held me everywhere, and thus, with great care, in short steps, we covered about two or three meters to eaves where a door opened, through which we entered. After walking down a long corridor, they show me into a room and leave me there alone. The room looks like a loft, that is, it has a sloping ceiling, a small window, and a long table. From another door, located at the front, my companion came out with 6 or 7 others in white lab coats.

I was subjected to a complete physical examination, during which I felt nothing at all, they joked with me the whole time and were amazed at my submissiveness. While they were manipulating a pair of scissors, I noticed their hands. One of them agreed to take off his glove so that I could get a good look at it, they had only four long fingers with flaking skin, narrow nails, and webbing between them.

They brought in a kind of folding screen, they placed it in front of me, they plugged in a lot of cables and some grey spots began to appear on a little screen. They told me that those spots were inside my head, but I did not understand how my head could be split in half. Now I understand that this

was my brain. They showed me some slides—as they called them—but they had to be microscopic, because I didn't see them. They injected them into the back of my neck. Everyone was attentively watching the screen, where a flashing red dot was seen advancing, until they made sure it was in the right place. After I got dressed, we went back to the elevator and when we got down I was really scared, because, unlike when I went up, my hair came to my face, it went in my eyes, mouth and ears and it was impossible for me to get it out. When we got downstairs, they calmed me down. Looking up at the sky, I saw a train [sic] with windows that went around us as a farewell... When they took me home it was still night, everything could have happened in about two or three hours.

The experience seemed to end here, but Próspera herself assures us in the same letter:

They came to see me around the year '53, then it would be '60, again about '72 and the last time three years ago. I have never recognized them. [sic]

What the dissemination of the case produced in Próspera—restlessness, personal involvement in the ufological environment, along with uneasiness—motivated me three years after the beginning of my investigations to publish the work “Próspera Muñoz: A Case Reported and Little Known,”⁷ it was something I owed her so she could settle down. Moreover, the ufological community was demanding news after three years of silence. Only Ángel Alberto Díaz was able to issue an acceptable critical judgment. The others, who generally gave their opinions in private to the author, undoubtedly did not know how to read between the lines, or even verbatim, which originated a torrent of very diverse opinions, from the one issued by Ignacio Cabria, who said: “... Ruesga affirms the witness's sincerity, but fails to pronounce on the material reality of Próspera's successive encounters with aliens throughout her life,”⁸ through that of skeptics for whom “investigating abductions is a miserable waste of time,” up to that of a certain malicious writer who notified the witness of his opinion that “Ruesga has betrayed your friendship.” Fortunately, in this last case, the witness had such a degree of confidence in me that she did not hesitate to tell me about this insinuation for what it was, the crude intention to provoke a confrontation with the investigator in order to get an easy opening into the case. (Figure 5.)



Figure 5. Próspera with the author in his house during a visit that she and her husband (J.M. Semitiel) made to Seville in 1987. Photograph by José Ruesga. (Author's archives.)

After the publication of my article in *Cuadernos de Ufología* in 1988, my contacts with the witness continued to be frequent, very lengthy, and full of deep mutual trust. Such a degree of collaboration existed in the following two years that Próspera did not hesitate for a single moment to accompany me to Santander to give a lecture on her experience, which was organized in December 1990 by *Cuadernos de Ufología* in collaboration with Caja Cantabria, as part of the program “Ovnis: Experiencias y análisis” (“UFOs: Experiences and Analysis”). This time we have the opportunity—once again—to spend many hours in a row together. Her husband, José María, accompanied her. There it was said again that there was no evidence to consider the

material reality of her experiences, and I reasserted that Próspera was not lying, because she fully accepted what happened as real.

In our conversations, some differences arise about the opinions expressed. For example, it turns out that the drawings and sketches accompanying the first accounts had not come from the hand of Próspera, but from that of her husband. In addition, the husband talks about the unreliability of the tests carried out, based on his experience in the company he works for.

Meanwhile, the witness continues to be subjected to all kinds of pressure in an irresponsible way. Her presence on radio, press, and TV is constant, sometimes on style shows, such as the program “A mi manera” (“My Way”). Also, with researchers such as Ribera. Próspera had entered into the realm of the researchers themselves through these channels very early on—her own husband is fond of the subject—which makes her presence and participation very peculiar, it is not that of a researcher-witness relationship, but rather that of two interested parties. Rare is the researcher who has not established a correspondence with “Peri,” or who has not taken her to public events or participated in her gatherings in Gerona. As Ignacio Cabria would say in his book already cited: “... do not forget that thanks to her case she has been introduced into the environment of paranormal investigators.”⁸ (Figure 6.)



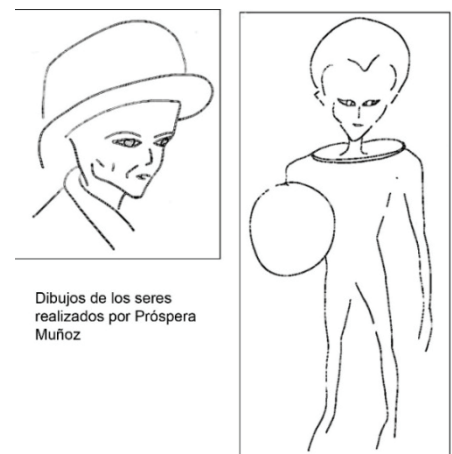
Figure 6. Santander, 1990. From left to right at the table, Ignacio Cabria, Próspera Muñoz, the author, and Julio Arcas, during the sessions of “Experiences and analysis.” Photograph by *Cuadernos de Ufología*. (Author’s archives.)

The First Doubts

The December 1990 conference in Santander marked a milestone in the investigation process. The witness tirelessly seeks to answer my doubts, with our exchange of letters maintaining a sustained interest for some time, which is not surprising, because since the beginning of the investigation the correspondence had become very fluid and intense. However, in her letter of January 14, 1991, Próspera says:

I feel the need to clarify everything regarding the matter of the drawings, there was never any intention of deception, it was just a misinterpretation, the important thing was the details and clarity. It never occurred to me to think that they would serve for undertaking a personality study. [Figure 7.]

Figure 7. Drawings of the humanoids done by Próspera in 1991. (Author’s archives.)



So, this prompted our interlocutor to return to the drawings of what she had seen. Her letter said:

The subject of drawings is the most problematic, I spent all afternoon yesterday on them, and I only get what you see. They are mine, but they do not express with the maximum fidelity the mental image that I have of my “friends.” The first illustration [Figure 7] corresponds to the first visit, it is not very successful because I cannot get rid of that feminine aspect that they did not really have, nor can I give it the tremendous elasticity and agility that they possessed.

The basic characteristics of the beings observed by the witness in her first experience can be defined as follows:

- Small stature.
- Bulky skull.
- Fine face, very marked cheekbones.
- Hair flat against the skull.
- Eyes elongated toward the sides, slightly inclined. Large pupil, sweet look.
- Bulging forehead, with large purplish veins.
- Pale color.
- Very thin neck.
- Wide shoulders.
- Well-proportioned body (except for the head) with extreme thinness and narrow hips.
- Arms longer than normal.
- Long, thin hands, four fingers, with a small webbing between.
- White, one-piece, tight-fitting outfit.
- Transparent helmet carried in the right arm.
- Long gloves that they remove when taking the glass of water.

At this stage of the investigation, the student already has an impartial judgment of the facts. When Próspera begins to have her strange memories, there does not seem to be any event that justifies it, at least so it seems. However, for the beginning of the story, it is crucial to know certain dramatic family events that occurred in 1979, which I cannot disclose.

The memories begin in 1980 and it is not until 1982 that she comes into contact with Ribera. It is symptomatic that the memories begin by reading a book about UFOs. The story that she tells Ribera and which he hastily makes known in *En el túnel del tiempo*, tells us about her first experience. When she describes the beings, she says: *They both wore white one-piece outfits; otherwise, they seemed completely normal to us.* [sic] Only two features stand out, *very black hair, completely plastered against the skull and the eyes were black and penetrating.*

Not until February 1982 does Próspera rectify what she saw, and she does so after having read Ribera's book *Secuestrados por extraterrestres* (“Kidnapped by extraterrestrials”).⁹ Then she made a series of arguments, establishing that the beings should measure between 1.40 and 1.50 m.

When we come into contact with her in 1985, her description is already much more elaborate, and her account says:

Two beings approximately 1.40 to 1.20 meters tall [sic], dressed in white one-piece outfits, very thin faces, very thin lips, huge eyes that stretched out toward the sides, huge skull, very bulging temples (revealing huge purplish veins), very white in color, broad shoulders, very thin body, tight suit, boots with very thick soles, hands without thumbs, very long and with skin between the fingers, thin arms and longer than normal, with a significant lack of musculature.

If we assume—as we have already said—that the drawings made then, despite not having been made by Próspera (her husband made them, following her instructions), can be compared with her different accounts and with the cover of issue 10-11 of *Cuadernos de Ufología* (1st epoch), an issue that addressed the debate on the case of Próspera and to which she had access at the time.

The differences between accounts are evident: from “completely normal” to this description where any resemblance to normality is purely coincidental. It is curious that little by little everything is modified and becomes increasingly complex and strange. In her letter of December 15, 1985, there is already something that draws our attention: on the visit to the house at noon they are dressed in a tight white suit and do not wear a helmet or diving suit, later they wear a corduroy suit and cap and at night *the same as in the morning*, wearing a diving suit. But also, as we see in a new version of the events in 1991, there are new elements added: *very thin neck, transparent helmet and long gloves*, and omitting others such as *boots with very thick soles*. There is an evident metamorphosis, an evolution of content caused by her continued active presence in the ufological world during these six years. Does Próspera lie? I am convinced that she does not, but the subject is much more complex and simpler at the same time.

Her story is a conventional story within abductions, it follows general norms despite the differences in nuance; what is abnormal is the memory-recovery process. It is not a matter of accessing blocked memories through the use of hypnosis, but rather that they appear suddenly at a certain moment in her life. It is the reading of Ribera’s book *El gran enigma de los platillos volantes* (“The Great Enigma of Flying Saucers”)¹⁰ which serves as a trigger, and curiously for a person who admits to being a fan of the subject, what draws her attention is precisely the silent nature of the event at noon. Hypnosis is used frivolously and without any guarantees, and the only thing it has done in this case is to reaffirm previous knowledge. Moreover, the readings and the discussion in which Próspera participates, even with me, in the course of the investigation, does nothing but improve the subject matter, refine the doubts and failures in her own memory, therefore creating elements absent from the original story.

Próspera continues with a detailed recollection of the beings she saw in the bar in Jumilla, which was the second of the visits described in the first step of the investigation process:

This visit corresponds to the second illustration [Figure 7], which I consider quite successful, so much so that when I look at it, it impresses me, although I have not managed to capture some details such as the arch of the eyebrow that was very pronounced and the eyes, which despite their size were very sunken...

The description of how she sees them can be summarized like this:

- Small stature.
- Figure somewhat stooped.
- Grotesque demeanor.

- Huge hat.
- New raincoat that is big on them.
- Lively and intelligent look.
- They act with great poise and conviction, with calmness.
- Strong light bothers them.

Now five successive visits are documented at different moments of her life, in the third one Próspera highlights the total absence of muscles, since they had bare arms and legs, as well as their olive tan color. After all, this was at San Juan Beach in Alicante.

During the fourth visit, in the telephone office where the witness worked, she was struck by the fact that they were small and thin, and with raincoats despite it being the middle of summer. In so many statements she had made previously, she said that she was the only one to see them and now she tells us literally:

... My coworker made a comment about the color of the skin, between brown, grey or bluish and that she found them very ugly.

As Ignacio Cabria wrote in the aforementioned book: “the subject having had access to what was published about her experience... has made Próspera unconsciously introduce new elements in her story.” Here it is obligatory to draw the reader’s attention to the fact that before she always maintained that no one else saw the strange visitors, and now there is someone who seems to corroborate the fact, but also adding something more in line with the knowledge acquired, that the skin is grey or bluish.

Now returning to the fifth visit, Próspera will tell us:

I only remember that I [sic] saw them small, pale and that the woman was wearing an old-fashioned blonde wig and they were all wearing small caps.

That the witness maintains an absolute conviction that she relates real events, the following words can serve as a sample:

In all honesty, my abduction from the beginning has been a real event, a memory as vivid as any other in normal life; I swear to you that, if I reject these memories, I would also have to reject all the rest of my previous life, I cannot deny them because to do so I would even have to doubt my name.

The witness’s account was strange but, due to the many interferences occurred over 38 years, it has become a very extravagant tale. When she first speaks of her experience, she had read everything published in Spanish, which was very little, and yet her account did not resemble that of the Hills, although Ribera tried to compare it to theirs. Then, almost five years later, the story already looked more like the Hopkins models, to finally more closely resemble those that circulate about the “greys.”

A Coherent Proposal

Around the same time—the year 1991—my contacts with Dr. Carles Berché, a member of the Cuadernos Collective, had made us consider some questions that were mandatory to confirm some of the things that the investigation had been uncovering and that, if it were not done, they made it necessary to leave totally unknown certain facts related by Próspera. It involved diving into the subsequent encounters with the humanoid figures and subjecting them to a reliable psychological test, evaluated by Dr. Berché himself (I used Adell's 10 x 10 test)¹¹ as well as doing an X-ray and a Magnetic Resonance Imaging scan (MRI) of her skull, which would allow for the capture of water densities, that is to say, a living tissue—only cells—where differences from another tissue of different composition can be detected. The MRI would expand on what was obtained by X-ray. Próspera's disposition was excellent, as demonstrated by her words in the same letter of January 14, 1991, in which she said:

We will do the brain scan and whatever you want when you see fit...

Unfortunately, the fluidity of our communication is broken on her side until June 3 of the same year. Beyond that, nothing on the case, just personal issues, feelings expressed in spurts, which is a symptom of lack of concentration. From then on, her letters got further and further apart. My insistence is at times restrained by our existing friendship and a scrupulous respect for her privacy. When she doesn't answer, there must be compelling reasons, I thought.

Thus, on April 24, 1992, I received a page from the magazine *Tele Indiscreta*, which reads: "Next Thursday on the program 'Who Knows Where?' a woman explains her experience with UFOs." Accompanying the report is one photo of Billy Meier and two of Próspera, the latter apparently asleep. On May 19 of the same year, I write to her and, among other things, I say:



*Several days ago, by chance I saw you on television...
If I have to be honest, it gave me a certain shudder to
see you on the screen, subjected to hypnosis...*
[Figure 8.]

Figure 8. Screen capture from the TV program "¿Quién sabe dónde?" (Who Knows Where?), 1992. (Author's archives.)

A short telephone conversation with her husband tells me that she is going through a crisis, of which I will only say, out of respect for privacy and our friendship, that it was serious enough for me to keep silent for several months. On July 1, 1992, Próspera writes me a heartbreaking letter. Among many other things, she tells me about the simulation of hypnosis made for the program at the request of certain people, whose names I omit due to the discretion I owe to Peri's private communications. The reaction is consistent with the damage done to her, and she tells me:

I do not want to continue any kind of research on myself, whatever I had to say has already been said, if something new happens, which I doubt, you would be the first to know, but I would not give it to everyone as I have done so far, because reporters have a habit of distorting everything, embellishing stories to their liking, they only want to show off their own personal brilliance.

So this closes off any possibility of investigating those aspects that we had agreed on with Dr. Berché. Curiously, the promise that she makes to me is not fulfilled, because throughout subsequent years she has continued giving interviews and participating in whatever is proposed to her, without returning to take up research with me.

A mutual friend writes to me throughout 1995 and, commenting on Próspera's silence, she tells me: "I have a special interest in letting you know how much I know that Próspera Muñoz valued you in my presence, without a doubt she must be going through a difficult time." In a further letter, dated August 22, 1995, she confirms to me that Próspera suffers from a very strong depression, something that Semitiel—Próspera's husband—had already made me understand in our aforementioned telephone conversation.

My contacts with Próspera continued over time, until a suspension in April 1996. They were limited to a conversation between friends, without any allusions at all to her experience, not even to her current feelings on the matter. Próspera Muñoz has returned to her birthplace, Jumilla, where she has reencountered her family and herself. One day, before these last experiences, she herself wrote in the pages of the magazine *Más allá de los ovnis* ("Beyond UFOs")¹²:

In 1983, with Antonio Ribera, I attended a UFO congress in Ciudad Real and a new conference on UFOs in Madrid, in 1985. As a result of offering my testimony publicly in those forums, several researchers approached me, and at the same time others curious and interested in the topic of UFOs also did so... In this way, I was getting up to date with other currents within ufology that offered supposed messages received from entities connected to UFOs.

Reflections

Próspera Muñoz's case came to the investigation with great problems, with too much haste on the part of those who did the investigating. Without guarantees about the hypnosis sessions and without measuring the personal implications of the witness in the ufological media. When I tackled researching her in 1985, I tried to learn about several aspects:

- The full account of her experience.
- The existence of possible witnesses who could corroborate her statements. Three very obvious ones presented themselves: her father, her uncle, and her sister Ana. From my investigations it can be deduced that neither her father nor her uncle has any memory of those events, nor of possible footprints, nor of strange planes that take off, which her own husband confirms in personal telephone conversations: "Neither grandfather nor Uncle Juan remember anything," he tells me. Her sister Ana, after much insistence, confirmed to us on Feb. 27, 1986, that she recalled that in the summer of 1947 events occurred that are limited to the observation of a shiny object, like nickel-plated, which approaches them without any noise. It gave the impression that it was taking over the entire environment. After my insistence for more data, only complete silence.¹³
- It was a work supported by several specialists in medicine and graphology to learn about her personality and establish a medical chart that could provide clinical background.⁷ The only possible conclusion is that Próspera could have made up the story, although there were no serious personality disorders. Moreover, her clinical development did not indicate anything abnormal to the extent of making one suspect that she had invented the experience as narrated.
- Find physical evidence to support her story. We have already said that only the testimony of her

sister seems to corroborate the beginning of the events. No footprint, none of the effects of supposed radiation, or finding the metallic object found on the table, despite the fact that the latter was searched for by a Girona investigation group and by Próspera herself and her husband. Nor has it been possible to carry out the tests proposed by Dr. Carles Berché, which, although they were never rejected by the witness, were not accepted in the end because of her refusal to continue investigating.

I cannot accept the material reality of the facts because the evidence shows that her story is of another kind, closer to psychological, and whose ultimate causes lie in a difficult family situation in 1979, an evident lack of self-esteem at the time of the beginning of the memories and the demand for attention when she finds herself welcomed by Ribera and then by all of us who are interested in her supposed experience. Some things remained to be done, which would undoubtedly have led us to less controversial conclusions: the psychological test, the X-rays and MRI proposed by Dr. Berché, or finding the mysterious contraption supposedly hidden by Próspera in her namesake villa, which contrary to the opinion of some, was searched for without success.

Her own words could be a good coda to the whole case:

Whatever plane they come from (another planet, another dimension or any hidden place in my brain) [emphasis of the author], they all deserve my respect and thanks, since they forced me to take a big step on the path of my own personal development.

And certainly, this would have been a magnificent coda if it weren't for the fact that throughout the years from 1996 to the present day, Próspera has continued to promote herself in public by giving interviews and attending meetings and congresses, showing that she is comfortable in that environment and not safeguarding her emotional integrity. For example, the publication of the article "La niña secuestrada por extraterrestres" ("The Girl Kidnapped by Extraterrestrials"), also in 1996,¹⁴ or the articles published by *La Verdad de Murcia*, in its "Evasión" supplement (which her own husband criticizes in *Tierra 2*),¹⁵ in *El País* in 1983,¹⁶ in *Más allá de los ovnis* in 2015,¹⁷ references and interviews on the internet, and many more.

A few years ago, Jorge Sánchez phoned me, asking for my research on the case, and I referred him to what was published in *Cuadernos de Ufología* and explained that I keep a large amount of information as a result of my ten years spent monitoring the case, but that I was reserving it for a possible future book. He told me about his book project in which Próspera was openly collaborating, a book that I read when it was eventually published, under the title *Contacto entre dos mundos: Las extraordinarias experiencias ovni de Próspera Muñoz* ("Contact between Two Worlds: The Extraordinary UFO Experiences of Próspera Muñoz").¹⁸

After that, I located Próspera Muñoz on Facebook and we reconnected. That is, until 2021, when after congratulating her on her 81st birthday, I never had any more response from her. (On May 28, 2021, I discovered that she had blocked me on Facebook. This was soon after she had appeared, once again, on the DMAX series "Extraterrestres.")

Reading Jorge Sánchez's book was a big surprise to me. On the one hand, there is no mention of the ten years of contacts with me but, nevertheless, it says verbatim:

*It was at that exact point in Peri's life that the proposal arose, by two Sevillian researchers—José Ruesga and Miguel Alcaraz—of subjecting her to the controversial polygraph, in addition to a new hypnosis session....*¹⁹

This assertion is totally false, as my proposal was made in agreement with Dr. Berché, and at no time does it speak of polygraph or hypnosis as stated above. And much less that it could have been done with Alcaraz, whom I am fond of but with whom I have never undertaken any investigation related to Próspera's case. Moreover, it talks about facts and circumstances that Próspera had never referred to before in all her accounts. This ends with the description of some red spheres like marbles, of which she says: *when I touched them I felt a tremendous burning*. As if this isn't enough, Próspera is quoted as describing the visitors: *He wore a kind of transparent helmet on his head, like glass, I suppose, which reminded me of ordinary spherical fishbowls*, when you don't have to do more than read her original statements to see the differences. And she even goes so far (allegedly) as to declare to Sánchez that they told her *that they came from Venus, but not the Venus that we knew*.

Now Próspera's sister also decides to talk about the experience and speaks with all kinds of detail about the first sighting of the events in Villa Próspera, claiming that she did not do so before because her husband was skeptical of these matters and she did not want to be involved with the press.

Jorge Sánchez did two things well. First, he asked about the implant, to which Próspera replied that they did a scan for an ailment she had and that nothing strange appeared (?), without mentioning Dr. Berché's proposal and her refusal. And second, he made a search for the strange artifact that Próspera hid in the wall of the house using a pachometer (a device used to detect the presence of ferromagnetic materials like steel and iron embedded in concrete), but without results even after drilling up to 30 cm of the wall where the device gave a signal. That is, there was no implant, nor was there a metallic device in the wall.

Once again the story is modified, for the umpteenth time. Evidence that could have verified the veracity of certain aspects of her story is not found. Popularity and satisfaction are still sought after despite the fact that she says otherwise when talking with somebody one-on-one. And we are left only with the testimony of her sister. I always stood up for her, saying that she was telling the truth, and was convinced of her experience because a certain psychological reaction to daily events was operating in her, causing discomfort. But now all this makes me question the entire story.

Conclusions

Dr. Bueno Ortega said that, if she believes it, even if it is not real, she will relate it as such. Hypnosis only serves to deepen and update the subject, implanting memories that are not real, rather than helping discover the truth. He also said that she could have family problems, and there were, in fact, personality problems in 1979—a lack of self-esteem was detected that was later apparently corrected by her dealings with researchers; she was a patient prone to depression due to frequent anemia; and she managed to attract the attention of her husband who was fond of these issues. We do not know if there was an episode that marked her childhood, other than what she says.

My final diagnosis is that the subject matter is not real, it is a confabulation, a fantasy that she has been recreating repeatedly to which she has added new imaginary data. She may believe it to be true, although everything leads one to think that she has consciously avoided everything that could ruin her story. The role of her sister is difficult to understand, because if it is true that she lived the same experience in that first meeting, why did she abandon her sister in the face of people's incredulity? Why didn't she reaffirm those brief lines that she sent me that led me to believe that they had been dictated by her sister?

Let's look at some of the most difficult points:

- She says that the beings in the first meeting seemed completely normal, when her description, every time she alters it, is less than normal.
- When she sees the same beings on different occasions, sometimes they don't wear a diving suit and sometimes they do. If the environment is hostile to them, how is that possible?
- When she describes their clothes, she talks equally about tight one-piece outfits as well as corduroy and raincoats, caps or hats, even wigs.
- She claims to have seen them again, at least four times. And she adds: *I have never recognized them*. If so, how does she know it was the same ones?
- She affirms that only she saw them, however, she relates that her co-worker found them especially ugly. (?)
- When I point out that when she was on the television program under supposed hypnosis, and it made me shudder to see her like that, she breaks down and confesses that it was all a farce, that she was not subjected to hypnosis and it was only to meet the demands of the script. After that confession a serious depressive crisis is triggered, or the one that she could already be suffering from (judging by the symptoms detected) gets worse.
- When medical investigation with Dr. Berché is proposed to her, she accepts, but subsequently slams the door on any investigation. She does not return to the usual contact and shifts her interest to other people—despite her having said to the contrary—which shows a conscious escape from a truthful search for an explanation of the unknowns in the case.
- Far from reducing her appearances in the press, radio and television, over the years she has granted countless opportunities to be present in the UFO news. Which does not benefit her. At the same time, she continues to shape her story, adding new aspects.
- And particularly eloquent is the omission of our years of monitoring that, for or against, should have left their mark on the witness.

At all times I have been scrupulously honest with Próspera Muñoz, to the point of not making public conclusions that could affect her psychological integrity. But the desire to continue feeling herself the protagonist and center of attention has been more powerful in her, rather than the safeguarding of her own integrity. I have the moral peace of mind of having been excessively scrupulous in my dealings with her, to whom I unconditionally granted my friendship. For me, then, the case has now reached its conclusion.

Acknowledgments: My gratitude to Richard W. Heiden for an excellent translation from Spanish.

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Lunar Terror in Poland: A Doctor's Dilemma

Wim van Utrecht

Abstract: A report describing the sighting of an unidentified aerial phenomenon that obstructed the passage of an ambulance car carrying a pregnant lady to a hospital in Sztum, Poland, is being re-examined. The incident occurred on September 5, 1979, and it received publication in the local press and in a reputable UFO journal. Assessing the details of the report with modern tools and a critical mind-set revealed that the sighted phenomenon was the setting moon. The report contains all elements typical of such misinterpretations, including: the moon illusion (false impression of the moon being bigger when close to the horizon), the parallax effect (false impression of being followed by a distant, quasi-stationary object), as well as grotesque errors in estimations of size, distance, and altitude.

Keywords: Ambulance, Flawed estimations, *Folie à deux*, Moon illusion, Parallax effect, Popik, Sztum

Introduction and Case Summary

The subtitle of this paper (“A Doctor’s Dilemma”) is borrowed from a caption that accompanied the drawing on the cover of the March 1981 issue of the British *Flying Saucer Review*,¹ a publication that was long considered to be the world’s foremost UFO journal. The drawing, published here as Figure 1, is an artist’s rendering of a UFO incident detailed in an article on pages 2-4 of the journal. The author of the article is the well-known Polish ufologist and sci-fi & fantasy writer Emma Popik.² Popik’s report describes a scary encounter between the occupants of an ambulance car and an unidentified object “hovering centimeters above a road” near a railway crossing in northern Poland. The highlights of the incident are given below, quoted directly from Mrs. Popik’s contribution to *FSR*.

On September 5, 1980, at 3.15 a.m., the telephone rang in the first-aid department of the hospital at Sztum. An ambulance set off quickly in response to the call. Its destination, the village of Zulawka, where a confined woman, Mrs. Elzbieta Pluta, aged 25, was waiting. Aboard the ambulance were Dr. Barbara Piazza, Grzegorz Skoczynski the driver, and stretcher bearer Andrzej Olejuik . . . At about 3.30 a.m. they were on their way back to [the] hospital. Elzbieta Pluta was comfortable, sitting, not lying—which means that there was still a little time. She had pains every ten minutes.

Suddenly Dr. Piazza noticed a big red ball in the sky, some distance from them. She asked: “What would that be?” . . . At that point, the time was about 3.35 a.m., and the ambulance was near the village of Tropy. The red ball was well in view. Indeed, as they passed through Tropy, the object was as large as the moon to look at, dark crimson in color, and coming closer all the time. The driver could also see it when he was able to take quick glances, and they all became very interested when the ball approached within a measurable distance—about 500 meters—and moved on an oblique course to the road, from N.E. to S.W. over gently sloping hills. It did not appear to be at any great height, the angle of elevation being between 15° and 20°.

¹ Popik, Emma, “Under Intelligent Control? When a UFO ‘paced’ an ambulance in Northern Poland — and obstructed the road,” *Flying Saucer Review*, Vol. 26, No. 6, pp. 2-4.

² Born in 1949 in Skepe, Emma Popik graduated in Polish philology at the University of Gdańsk. In 2000, after a long stay in London, she returned to Poland and became founding editor-in-chief of *Nowy Kurier Nadbaltycki*, a monthly magazine that focused on the educational institutions in Gdańsk. A list of selected publications by Popik can be viewed at: http://www.emmaPopik.pl/index.php?title=Strona_g%C5%82%C3%B3wna (all Web sites accessed July 25, 2022).

Said Barbara Piazza a few days later: “I was always aware that it was never exactly in the sky; it was not very high over the ground any of the time.”

Soon the ball was at the level of the treetops and at a distance of about 200 meters from the ambulance. All the passengers were watching it in silence.

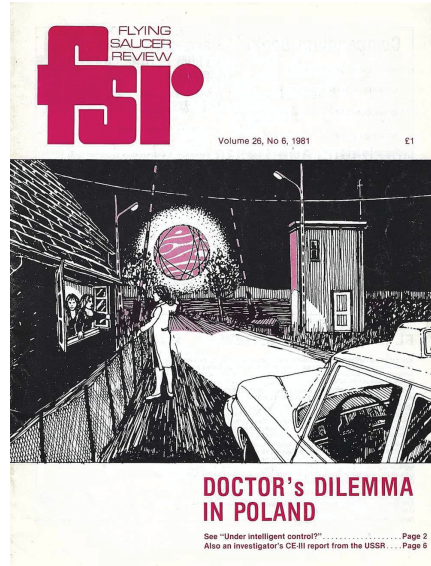


Figure 1. The cover of *Flying Saucer Review*, Vol. 26, No. 6, with artist Terrence Collins' impression of the scene at the railway crossing.

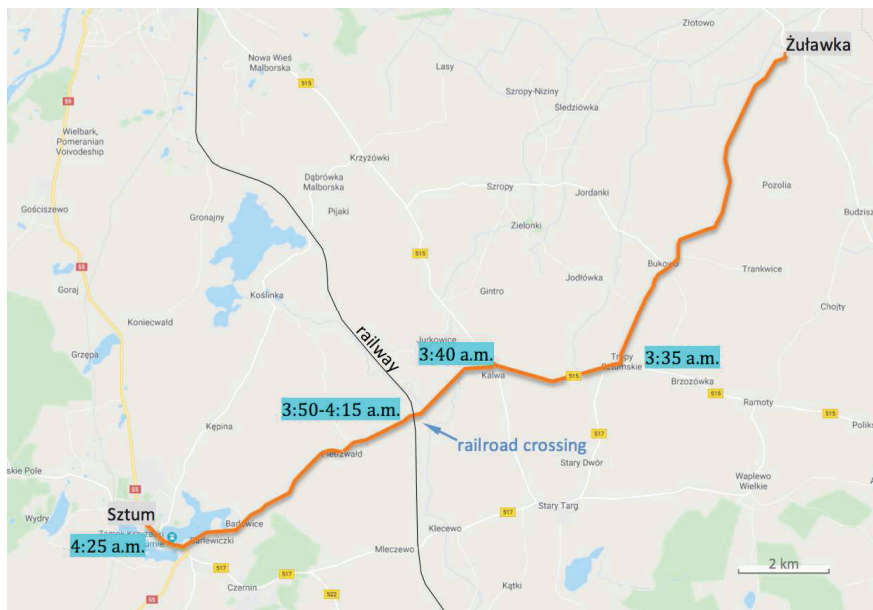


Figure 2. Map of the area. In orange, the route followed by the ambulance from Żuławka to Sztum. The black line represents the railway. Times are approximate and gleaned from Emma Popik's report in *FSR*. Credit: Google Maps, with graphics added by the author.

At about 3.40 a.m. the moon had waned [set? —Ed. *FSR*] and the ball was swinging past the trees in gentle curves as they left the village of Kalwa behind them. By now the ball was about 150 meters to the left of the ambulance.

Wishing suddenly to escape from the object, the driver accelerated. Whether at 130 km/h or at 90 km/h, it was just as if the ball were linked to them by cord; it never changed its distance from them. Later, while I was interviewing the doctor, she said: "It seemed obvious to me that that object was under intelligent control. We just could not lose it. It was pacing after us!"

Soon the ambulance was approaching the railway level crossing between Kalwa and Sztum. The driver continued a few meters, but then stopped: the red ball had suddenly appeared about 200 meters, or less, ahead of them in the road. They had not seen it dash ahead of them, but it stopped . . . between two trees. The carriageway is 6 meters wide at that point, but the edges of the UFO overlapped the road on either side, between the trees, by about 50 cm.

The surface of the UFO displayed curved bands and stripes, with a lot of black lines going up and down irregularly in each direction. One of the eyewitnesses compared these clear-cut markings with veins inside a human body, while another compared them to a net. Only the doctor could not see the veins, for she is short-sighted, and wears spectacles. But she could see how parts of the surface changed color. There appeared to be yellow-orange patches on its deep crimson surface, and all four of them could see that. Dr. Piazza mentioned something about the possibility of radiation, and she instructed the driver to move the vehicle away behind the level crossing, and when that was done, she examined her patient, whom she found to be not too bad, but with not a lot of time left.

"I had seen the ball," said Mrs. Elzbieta Pluta when I spoke to her later, "and I also noticed the 'veins', but I didn't pay much attention to the thing. Let UFOs be UFOs, I thought; my problem was how not to bear my baby in an ambulance, for by then I was having pains every five minutes."

Dr. Piazza got out of the ambulance and approached the house where two crossing keepers were on duty. They were Józefa Kamińska and Gabriela Ludorf, and they were leaning out of the window.

"Can you see what I can see?" asked the doctor.

"We were looking at it for a while," one of them answered.

"We can ask them for anything," interrupted the driver, Skoczynski, "the girls are trembling with fear."

Turning back to the ambulance the doctor picked up the radiophone, and got in touch with the police:

"There's an obstacle in our way," she reported. "Come, please."

"What obstacle?"

"A UFO."

. . .

The object hovered a few centimeters over the road, all the while changing colors, getting brighter, then less bright, but always with a dull finish. Suddenly it moved slowly to the right and stopped behind the tree. Its yellowish light shone through the leaves; momentarily the tree was on fire. The object then moved up the slight hill, hovered at the summit, then returned after a few seconds. The watchers could see a strong white light underneath the ball, and the light stretched left and right. There seemed to be a flood of white light beyond the horizon, but, said the doctor, "undoubtedly the horizon was behind the object."

. . .

Minute by minute the doctor checked the time because of her patient. The situation was now urgent, and she called the police station again.

Meanwhile the object was changing back to its original color. The orange patches disappeared, and the whole thing became deep crimson.

The doctor looked at the patient and knew they could wait no longer. Her thoughts raced . . . surely it would know we have no time if we give it a signal? She turned to the driver: "Flash

the headlights,” she said, and he did so, twice. Then, one second they could see the crimson UFO as they began to move forwards, the next second it vanished . . . “like a TV set when switched off.”

That was at about 4.15 a.m., and 10 minutes later the ambulance is in the hospital. At 6.10 a.m. Mrs. Elzbieta Pluta bore a daughter, Aneta, 2,600 grammes, her fourth child.

So far, the chain of events as recounted by Emma Popik in her report for *FSR*. We received additional information about the incident through British researcher Martin Shough. Shough had located a link to a 28 minutes-long audio file containing fragments of Emma Popik’s interview with ambulance driver Grzegorz Skoczyński, stretcher-bearer Andrzej Olejnik and crossing keeper Gabriela Ludorf.³ A friend of the author translated the interviews from Polish to Dutch (Dutch being the native language of the author). In addition to more details about the event, the audio file tells us that police officers did eventually pay a visit to the railway crossing. In fact, the ambulance driver had noticed two officers talking to the crossing keepers when he was sent out by the hospital for a second call later that morning.⁴

So, what was this ball-shaped object with “yellow-orange patches on its deep crimson surface” that paced four people in an ambulance car as if it “were linked to them by cord” before blocking the road in front of them? To experienced investigators of weird sky phenomena, these descriptive elements immediately ring a bell: a reddish ball of light pacing a vehicle reminds one strongly of the moon, sitting close to the horizon and seemingly copying the movements of the observers due to what is known as the *parallax effect*.⁵ But can four adults—and an additional two crossing keepers—be fooled by the moon to such an extent that an urgent ambulance ride is interrupted, and police assistance sought? To answer that question, we need to first find out if there was a full or near-full moon in the right part of the sky that September morning.

The Stop at the Railway Crossing

There is one moment during the incident for which the line of sight to the unidentified reddish ball can be determined with precision, namely when the ambulance driver stopped “a few meters” beyond the crossing, then—fearing radiation from the object—drove approximately 200 m backwards to a point just before the crossing. The report is precise as to where this crossing is, namely “the railway crossing between Kalwa and Sztum.” Using Google Street View, it was not too hard to find this location (see Figure 3). Its geographical coordinates are 53°56′27″N and 19°07′18″E. Looking in the direction where the red ball was, namely hovering over the road in front of the witnesses, we found that the azimuth of the red ball for that phase would have been exactly 244°, meaning that the ball was then in the west-southwest.

Next, we checked if the moon was anywhere near that azimuth in the early hours of September 5, 1980. It was not... When the ambulance arrived at the crossing (at about 4:00 CEST or 2:00 GMT), the moon would have been in the east (azimuth 85.5°; elevation 19.5°).

³ http://www.emmaPopik.pl/images/3/3b/Ufo_w_Sztumie_-_wywiad_przeprowadza_Emma_Popik.mp3

⁴ From the interview it transpires that the doctor had called the telephone company and asked the receptionist to contact not only the police but also the army, hoping that one of the two would clear the road for the ambulance.

⁵ When looking out of the window of a moving vehicle, distant objects will remain in the field of view longer than objects closer by. A tree or a lamppost bordering the road, for instance, is quickly lost from sight, whereas obstacles farther away will remain in view longer. This effect explains why astronomical bodies like the moon appear to keep pace with a moving vehicle, apparently gliding over trees and hills and slowing down or going faster as the driver reduces or increases his speed.

In other words, the moon was nowhere near the western horizon and too high in the sky for it to have appeared reddish due to atmospheric scattering of the shorter wavelengths. Moreover, only 17% of the lunar disk was illuminated that morning, giving it the shape of a thin crescent, not a ball.

End of story? We must admit that these negative findings came somewhat as a surprise. After all, many elements in Emma Popik's report point to the moon as the obvious culprit. So, we decided to enter a few other dates in our sky map program. Perhaps there was a moment not too far away in time when the moon was in the right position. We struck gold when typing "1979" instead of "1980." Indeed, if the incident were to have occurred exactly one year earlier, the match would be perfect! That day, September 5, 1979, at 4:00 a.m. the moon was 97% illuminated and sitting close to the horizon at azimuth 245° (full moon was on the 6th).



Figure 3. Top: "Photo 2" from *FSR* showing the crossing facing the direction of where the red ball was seen. Bottom: Google Street View image from August 2013 taken from almost the same spot. The electric cabin on the right is gone, but the crossing keepers' house on the left is still there.

Could it be that Popik got the year wrong? This seems very unlikely, because Popik stated she interviewed the witnesses two days after the event. More plausible, perhaps, is that she had not mentioned the year in her report, and that it was the late Gordon Creighton, then acting editor of *FSR*, who slipped in the year "1980," thinking the event occurred not too long before he had received the report, which presumably was in late 1980 or early 1981. In a first attempt to find out if the year could be in error, we checked the internet hoping to find the date of birth for Mrs. Aneta Pluta, the daughter to whom witness Elżbieta Pluta was about to give birth less than three hours after the sighting. Aneta's birth date would tell us in which year the incident occurred. Alas, the search proved fruitless.

We then started looking for Polish references to the case by typing in Google Search terms like “Sztum,” “UFO,” “5 września 1979,” and “5 września 1980” (“wrzesień” being Polish for “September”). That quickly took us to an online article at a website called *UFO Relacje*. Its title: “UFO nad miejscowością Tropy Sztumskie 5 września 1979” (in English: “UFO over the village of Tropy Sztumskie on September 5, 1979”).⁶ The account we found there clearly concerned the incident we were interested in. A footnote further reassured us that the summary was based on “Press articles from 1979.” So, there we have it: the Tropy Sztumskie encounter occurred not in 1980, but in 1979!

Having established the correct date and time, we can now check the moon’s position in more detail. Figure 4 is a composite image of how the setting moon would have looked to someone standing at the railway crossing facing the west-southwest on September 5, 1979, between 3:50 and 4:10 a.m. We know that the ambulance arrived at the crossing around 3:50 a.m. At that moment, the moon was to the left of the carriageway, descending until reaching a position directly above the road (azimuth 244°) three minutes later. The Earth’s rotation would have made the moon transit slowly from the left side of the road to the right, which is consistent with Dr. Piazza’s statement that “it moved slowly to the right” (*FSR*). According to the ambulance driver, the ball was lost from sight “at about 4:15 a.m.” (*FSR*). At that time, he recalls, it “began to shrink and disappeared without a trace in 2-3 seconds” (*UFO Relacje*), which is consistent with what we find in the taped interview, namely that “it remained there till ten past four or a quarter past four.” 4:10-4:15 a.m. is exactly when the moon disappeared into the haze and sank beneath the horizon (at 4:13 a.m. to be exact, and not “at about 3:40 a.m.,” as Popik stated in *FSR*⁷). Actual moonset was at azimuth 248°, i.e., about 8 moon diameters to the right of the carriageway.

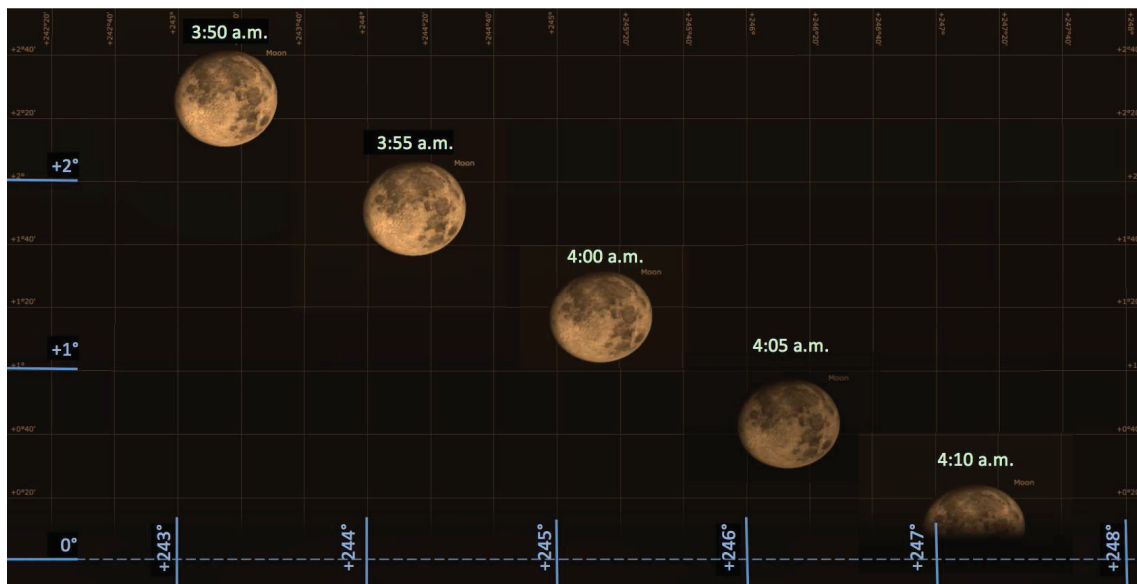


Figure 4. The position of the moon at intervals of five minutes between 3:50 and 4:10 a.m. on September 5, 1979. Composite image based on *Stellarium* renderings.

⁶ The article is at <https://ufo-relacje.pl/2018/12/29/ufo-nad-miejscowoscia-tropy-sztumskie-5-wrzesnia-1979/>

⁷ We agree with *FSR*’s Gordon Creighton that Popik’s statement “the moon had waned”—actually it was waxing— should be interpreted as “the moon had set.”

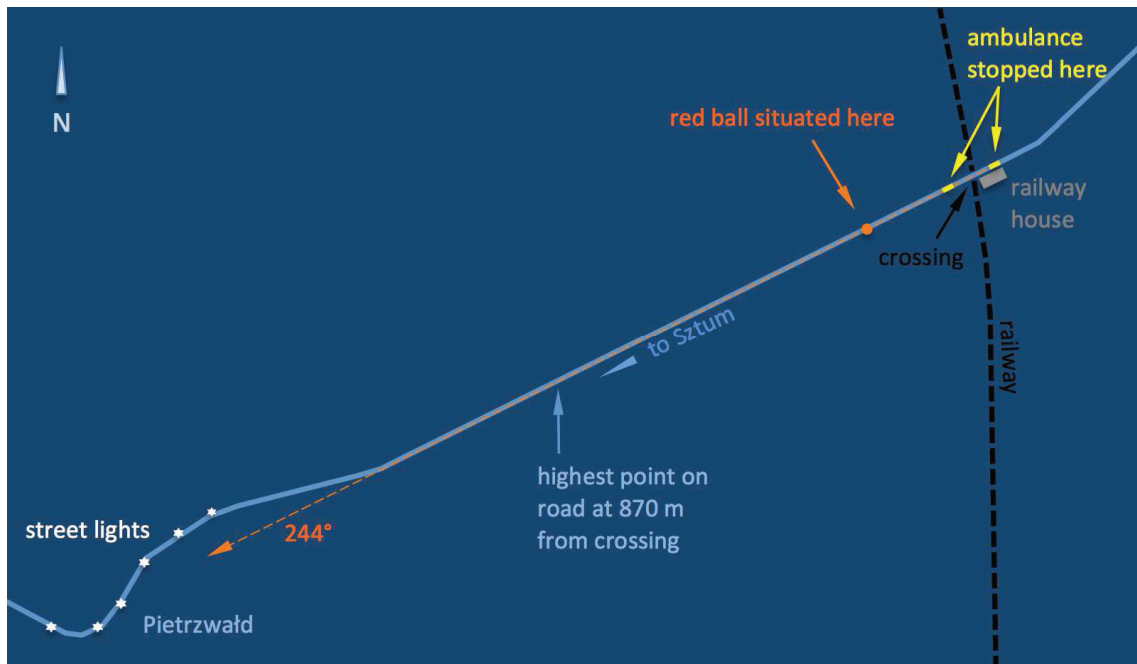


Figure 5. Schematic map of the sighting location with yellow rectangles representing the locations where the ambulance was stopped (first west then, after having driven backwards, east of the crossing), orange dot indicating the spot where the witnesses situated the red ball, dotted arrow showing the azimuth line for the red ball (244°); and blue arrow indicating the highest point on the road, namely 44 m ASL (the crossing itself is at 37 m ASL). White stars represent streetlights near the hamlet of Pietrzwałd (30 m ASL).

Six witnesses watching the moon for about half an hour and not recognizing it for what it is? Is that not far-fetched? Well, that representation of the facts is not entirely correct. When interviewed by Mrs. Popik at the railway house two days after the incident, crossing keeper Gabriela Ludorf stated as follows:

We had been looking at the ball for a while . . . We had already raised the barriers before the ambulance arrived because a motorbike wanted to cross over. We closed the barrier again and after that we saw the ambulance. I told my colleague to raise it again. The ambulance crossed the barrier, then quickly reversed to park itself just in front of the railroad. Oh my, perhaps they want to ask something. Something may have happened! So, the barrier went up again. I told my colleague Józia [short for Józefa] “What is that ball?” Józia said: “That’s the moon” [laughter]. Then someone [Dr. Piazza] came out of the ambulance and asked if we saw that ball too. She then started talking about possible radiation. That is when my hairs stood up. We had been looking at the ball for some time before the ambulance arrived but hadn’t given it much thought because we figured it was the moon. I do not know exactly when the ball had appeared, but when I saw it, it was over a small hill in the field about 2m above a pole. Dark red and bigger when compared to the moon. Not twice as big but about one and a half times the moon.⁸

In summary: it seems that the anxiety among the young women was largely due to the arrival of the ambulance car, its driving backwards over the tracks, the doctor stepping out, approaching them and asking questions about the ball while hinting at possible radiation. Not a *folie à deux*, but a *folie à six* so to speak. But Gabriela’s account also raises another question: how could the two crossing keepers have been looking at the red ball “for some time

⁸ http://www.emmaPopik.pl/images/3/3b/Ufo_w_Sztumie_-_wywiad_przeprowadza_Emma_Popik.mp3

before the ambulance arrived” if that same ball was supposed to have chased the ambulance near the village of Tropy, a location 5.3 km away from the railway house?!

The Chase

Popik gives no precise indications about the direction in which the object was seen prior to the ambulance’s arrival at the crossing. All we have is that “as they left the village of Kalwa behind them . . . the ball was about 150 meters to the left.” The *UFO Relacje* web article confirms this: “At 03:45 the ambulance was approaching the Sztum Trail, and when it reached the intersection, driver G.S. noticed, on the left, a dark red matte ball.” The vehicle was then on Route 515 approaching the turn-off to the “Sztum Trail,” which involves negotiating two consecutive junctions or “intersections” (Figure 6). It is when the ambulance nears the first junction that the red ball is first seen “on the left.” The witnesses were then heading northwest (Figure 7). This is found to be in accordance with the position of the moon at that moment (3:40 a.m., according to Popik’s account in *FSR*), namely west-southwest (azimuth 241°).

The next actions are accelerations and decelerations by the ambulance, matched by the “pacing” object. Plausibly this is when the vehicle was turning south between the two nearby junctions at Kalwa, and when the object was “swinging past the trees in gentle curves” (*FSR*). This would have been the moon “pacing” them on their left as they initially headed towards the junctions near Kalwa, then after “swinging” about during the turns, it would have “dashed ahead” and remained roughly ahead for a while before “gliding” to the right as they headed southwest towards the railway crossing. Just before the crossing, the road takes a weak turn to the right. As a result of this, the moon would have appeared on the left again before “swinging” right in front of them and coming to a stop above the road. The *UFO Relacje* article mentions: “When they passed Kalwa, the ball suddenly accelerated and overtook the ambulance to hang over the road.” That all generally fits the map and the likely relative motions of the moon, with the driver unwittingly putting an end to the chase when he stopped the car.



Figure 6. Zooming in on the trajectory followed by the ambulance.
© Google maps, with graphics added by the author.

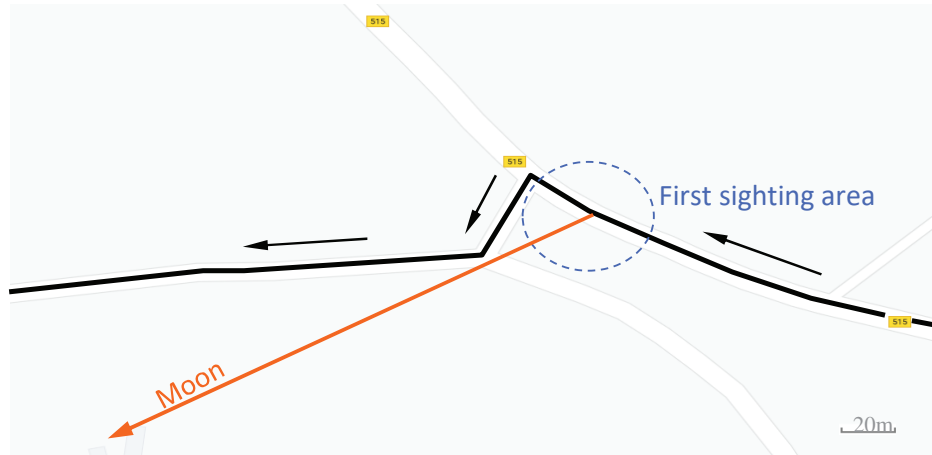


Figure 7. Map focusing on the two intersections near Kalwa with orange line indicating the azimuth for the moon at 3:40 a.m. © Google maps, with graphics added by the author.

Elevation Issues

But there is a problem. From the recorded interview, it transpires that when the ambulance arrived at the intersection of Route 515 and the Sztum Trail, the driver estimated the object was about 35° above the horizon. Popik had arrived at that elevation angle by asking Skoczyński to imagine a line leading from the eyes to the object, and then estimate the angle that line would have made with the horizon. Although it should work theoretically, experienced investigators know that this method fails to give a reliable outcome. Possibly, Popik was aware of this because in her *FSR* article she states that, when the witnesses approached the double junction at Kalwa, they situated the object at an angle of elevation “between 15° and 20° .” That reduces the initial estimate by half. But a bigger problem is that at 3:40 a.m., when the ambulance arrived at Kalwa, the moon was not 15, 20, or 35° above the horizon but only 4° .

The question is how reliable the figures given by Popik are. Experienced investigators know that estimates of elevations are almost always off, and not by just a few degrees. In fact, an (unpublished) study carried out by the author on 196 cases in which alleged UFOs had been positively identified as astronomical bodies, confirmed rather spectacularly that the elevation of an object in the sky is almost always grotesquely overestimated. In 45 cases from this sample, the witnesses estimated that the elevation angle of the sighted “UFO” was between 15° and 25° . In 4 of these, i.e., 9%, the reported phenomenon could be attributed to an astronomical cause (star, planet, moon, meteor, or ISS) that was lower than 4° above the horizon. In 17 cases or 38%, the mistaken astronomical objects were found to have been at altitudes between 4° and 8° . In 71 cases from our sample, the elevation angle was estimated to have been bigger than 25° but smaller than or equal to 40° . Thirty of these cases (i.e., 42%) were attributable to an astronomical source lower than or equal to 10° . Even though the sample used for this study is small, it does show a clear tendency for observers to largely overestimate the altitude of what they saw.

Another reason to doubt the accuracy of the high elevation angle are two sentences in the *FSR* article that quote the witnesses as having described the object’s as “never exactly in the sky” or “not very high over the ground any of the time.” Popik’s article also mentions that, at one point, the object was “at the level of the treetops,” and in the taped interview the ball’s flight is described as “passing trees and farms.” Do these quotes suggest that the red ball was

sometimes seen in higher areas of the sky? Not necessarily. Google Street View images show that Route 515 between Tropy and Kalwa offers wide views over low hills and fields (see Figure 8). In these circumstances, situating an object “at the level of the treetops” or “passing trees and farms” does not imply a large elevation angle.



Figure 8. Typical view of the open landscape from a point on Route 515 halfway between Tropy and Kalwa.
Credit: Google Street View.

Confirmation that the reddish ball was at a low elevation from the moment it was first sighted came when Spanish researcher Manuel Borraz Aymerich called the author’s attention to an article written by Stanislaw Barski and published on the Polish blog *Paranormal.PL*.⁹ We had missed that source when we set out to reexamine the case. Yet, it contains an interesting statement. Barski doesn’t mention his source, but he cites driver Skoczyński as follows: “It was 3.45. I just turned from Żuławka Sztumska to the Malbork road [Route 515]. That’s when we noticed a dark red ball far ahead the size of the moon floating in the sky quite low above the horizon.” This conclusively confirms our initial suspicion: the phenomenon was never observed at an altitude between 15 and 20°, let alone 35°.

The elevation is not in dispute when it comes to the final and longest phase of the incident. Popik writes in *FSR* that, when the ambulance arrived at the crossing, the object had descended to “a few centimeters over the road.” According to the driver’s account in Barski’s article, it came down “to a height of about 1m, 1.5m at most.” “To a height of about 2 m” is what *UFO Replacje* mentions. Any which way, it is clear that, during this phase, the object was in a very low position in the sky, close to the horizon.

Shape, Color, and Size

We already pointed out that there was a near-full moon on the night of the encounter, with 97% of the lunar disk illuminated. This phase of the moon is consistent with the description of a luminous, ball-shaped object. Telling in this regard is a fragment from the taped interview. When Popik asks the driver to draw the object (audio file), Skoczyński replies: “Not sure how to do that,” upon which the stretcher bearer tells him: “Just draw the moon, that’s as close as you can get.”

Tree branches in front of the slow-moving moon may easily have created the impression of “a lot of black lines” on the surface “going up and down irregularly in each direction” (see Figure 9). Popik’s article in *FSR* states: “Its yellowish light shone through the leaves” (our

⁹ Stanislaw Barski’s article is at <https://paranormalpl.wordpress.com/2010/04/22/incydent-sztumski/>

emphasis), while in the interview the driver stipulates that the luminous ball “had no influence on the trees.” Both statements suggest that the object was not in front of, but behind the trees that can be seen at the end of the road in Figs 3, 11 and 12. The typical dark and light areas on the lunar surface, can further account for the “yellow-orange patches,” with the overall red color being due to the large amount of atmosphere between the observer and the low moon (more atmosphere means more scattering of blue light).

There are several more peculiar details in the descriptions given during the interviews Popik conducted. One relates to the driver clearly seeing not only the “grid of black irregular lines,” but also “two dark horizontal stripes” or “shelves,” “bottom and top.” According to the *UFO Replacje* article these “shelves” were “visible only when the ball hung over the road.” Thick branches, aircraft contrails, or stacked cloud layers near the horizon—the latter illustrated in Figure 10—may account for these two dark stripes. More difficult to explain is Mrs. Pluta’s claim that she also noticed “something like an antenna” on top of the ball, making it look “like an inflated balloon on a wire” (Barski). Oddly, none of the other witnesses mentioned this detail. If reported correctly, it might be suggested that this “antenna” was created by streetlights near Pietrzwałd illuminating the side of a tall tree.



Figure 9. A near-full moon rising behind distant trees in an otherwise pitch-dark landscape produced this eerie sight. The photo was taken by the author during a holiday in Friesland, the Netherlands, on Christmas Day 2018.



Figure 10. Two pictures by the author showing how thin horizontal clouds may create the effect of “shelves.”

With regard to the size of the ball, the witnesses are unanimous: “the object was as large as the moon to look at” and “coming closer all the time” (*FSR*). Barski’s article tells us that Dr. Piazza tape-recorded her own recounting of the incident immediately after returning home that morning. A fragment of that recording refers to the moment when the phenomenon was first seen. It is quite revealing. Barki quotes the doctor as follows: “On the way back, a few kilometers after Żuławka, a red cloud appeared on the driver’s side over the horizon. It was strange; it looked like the setting sun. I joked to the driver: ‘Tell me what it could be: the sun or the moon? Surely it can’t be a UFO.’ The driver said it was the moon!” It is only after the object “became bigger, orange-red and clearly outlined” that the witnesses abandoned the idea of the object being the moon.

It is important to note here that many people are convinced that the moon is bigger when it is close to the horizon.¹⁰ In the same vein, witnesses who mistook the setting or rising moon for an unidentified object typically overestimate the size of what they saw when they are asked to compare its diameter to that of the moon. Gabriela Ludorf described the object’s apparent size as “not twice as big, but about one and a half times the moon,” which is also how other mistaken witnesses have described the setting or rising moon.¹¹

In the Tropy-Sztumskie case we have precise numbers to work with. When at the crossing, the size of the ball was compared to the width of the carriageway, which Popik asserts was “6 meters wide at that point” (*FSR*). “At that point” refers to the spot on the road where the witnesses believed the ball was, namely “200 meters or less” away from the car after they had crossed the railway. Popik also informs: “the edges of the UFO overlapped the road on either side . . . by about 50 cm.” At 200 m, a 6-metre-wide road corresponds to an angular width of 1.7°. With the moon’s diameter covering only about 0.5° of the sky, that would mean that—if the object had been the moon—it took up only about 1/3 of the road. So, what is wrong here?

Like with elevations, estimates of distances at night cannot be trusted. Interestingly, the road behind the barriers goes upward from the crossing (angle of inclination approximately 0.5°), then down again towards the hamlet of Pietrzwałd. According to Google Earth, the highest point on the road is at a distance of 870 m from the level crossing (see Figure 5). Having driven past the railway for “several meters” (*FSR*), we can round that down to 800 m. Beyond that point the road goes downhill again and is no longer visible from the crossing (see Figure 11). If it was the moon that was mistaken for an object hovering over the road, it would logically have been this visible ‘end’ of the road that was believed to be directly underneath the object. Now, at 800 m, a 6-metre-wide road would subtend a horizontal angle of 0.43°. In other words, to someone standing near the crossing, the moon being approximately 0.50° in diameter would indeed have appeared somewhat bigger than the width of the carriageway.

¹⁰ This optical effect is known as “The Moon Illusion.” The reason why people feel that the moon is bigger when close to the horizon has been explained in numerous ways, but the most important influences that create the illusion are believed to be the presence of reference points close to the horizon (small silhouettes of distant houses and trees make the moon look big), and a compensation by the brain that expects objects moving from a position high in the sky towards the horizon (like an airplane or a balloon) to become smaller, and not maintain the same angular size as the moon does.

¹¹ See for instance the author’s assessment of the Belgian Faymonville sighting of July 19, 1972, in which the principal witness similarly described the size of what they believed to be an unidentified object as “approximately 1½ times that of the full moon” (Vicente-Juan Ballester Olmos and Wim van Utrecht, *Belgium in UFO Photographs Vol. 1*, UPIAR, Turin, 2017, p. 101).

Movements

In the interview Popik conducted, one of the crossing keepers mentions that the object she and her colleague first presumed to be the moon, was “rocking up and down.” The driver, for his part, stipulates that it “lowered step by step,” whereas the doctor asserts that, after she had returned to the car, “the ball was still hovering,” but that after 15 minutes “it glided over the tree and continued to hover slightly” (Barski). Popik herself writes in her report that the ball “moved up the slight hill, hovered at the summit, then returned after a few seconds,” while the sketched path in an illustration that accompanies the *UFO Relacje* article (Figure 12) shows a downward movement followed by a steep vertical chute, turning the arrival of the ball into a veritable landing maneuver.



Figure 11. Zooming in on the highest point of the carriageway, we see that the parallel lines marking the borders of the road do not converge to a point on the horizon. Instead, the road is cut off horizontally. This atypical situation may have added to the illusion that the moon appeared to hover directly over the road.

Credit: Google Street View.



Figure 12. Illustration borrowed from *ufo-replacje.pl* showing the ball descending over the road as seen from the spot where the ambulance car first stopped after the driver had passed the level crossing.

The movements reported above are difficult to reconcile with the moon's steady downward movement to the right. It is remarkable, however, that each witness seems to be describing a different type of motion. This makes us wonder if the reported movements cannot be attributed to movements executed by the witnesses themselves. Walking up or down a small step, driving up or down a hill, or taking a few steps to the left or right or to the front or back, all these displacements could have caused the moon to shift positions with regard to fixed objects like a pole or a tree, just as it did when the moon "paced" the ambulance. The witnesses believing that the object was never more than 500 m away—while it was actually hundreds of thousands of km away—may have further complicated their interpretations of what was unfolding in front of them.

The White Light Underneath

Popik also mentions that there was a "white light underneath the ball," stretching "left and right" as well as a "flood of white light beyond the horizon." In the audio file, it is specified that the "lights" (plural!) shone downward and resembled the white lights of a car. The article from *UFO Relacje* has the white light "illuminating the ground beneath it." With varying descriptions, it is difficult to establish what exactly was observed during this phase. Using Google Street View, we noticed that there are several streetlights near Pietrzwald, about 1.5 km from the crossing (see Figure 5). We cannot be sure if these streetlights were already there in 1979, but it is not far-fetched to suggest that the glare of lamp posts near this small village may have been visible just above the highest point of the road and in that way added to the strangeness of the scene. Another possibility is that the lights came from a parked vehicle on the other side of the hill.

Conclusion

Despite these peculiar details (none of them particularly strange or based on corroborating eyewitness statements), the moon explanation appears solid. Apparently, Popik did verify if the moon was visible in the early hours of September 5 (possibly because not only the driver, but also the crossing keepers and the stretcher bearer initially believed they were looking at the moon), but Popik is quick to get it out of the way by stating that "the moon had waned [sic] at 3:40 a.m." Nothing could be further from the truth: even at 4:10 a.m., half an hour later, the near-full moon was still in the sky and positioned exactly where the UFO was situated. In fact, moonset was at 4:13, the exact time the mysterious red ball disappeared, namely between 4:10 and 4:15. Yet, none of the witnesses mentioned seeing the moon in close proximity to the red ball.

We consider the Tropy Sztumskie UFO incident, as it is referred to in Poland, as one of the finest examples of a moon/IFO report. It is not unique, though. Already in the 1980s, French UFO skeptics documented dozens of similar cases in which the moon turned out to be the cause of—often-spectacular—UFO encounters.¹² More recently, U.S. researcher Herb Taylor and the author collected many more such reports, notably from the Low Countries and from the U.S. Air Force Blue Book files.¹³

¹² See for instance: *Opération SAROS*, CNEGU, 1994; *Les influences de la lune sur la casuistique & l'ufologie*, SERPAN, 1993; as well as: Thibaut Alexandre with Eric Maillot, *Des OVNI au clair de lune*, Les dossiers de S.O. n° 6, 2015. A lengthy French article by Maillot on moon misinterpretations can be read at: http://www.unice.fr/zetetique/articles/meprises_lune.html (in French).

¹³ Unpublished, alas, but two of these moon/IFO cases are discussed in: Vicente-Juan Ballester Olmos & Wim van Utrecht, *Belgium in UFO Photographs Vol. 1*, UPIAR, Turin, 2017, notably on pp. 99-113 and 140-151. For more Moon/IFO reports see also Tim Printy's website at: <http://www.astronomyufo.com/UFO/MoonUFO.htm>

Acknowledgments: I am grateful to Martin Shough for proofreading this article and for helping me map the location and line of sight for the early phase of the sighting. I am further indebted to Manuel Borraz Aymerich for directing me to Stanislaw Barski's article, and to Herb Taylor for initiating the reopening of this cold case from the UFO archives. A final word of thanks goes to Monika Zielinska for a verbal translation of Emma Popik's taped interview from 1979, as well as to Mieke Tiebos for her help in conducting the study on estimated vs real elevation angles in Belgian UFO reports.

On the Credibility of the Barney & Betty Hill Abduction Case

Nigel Watson

Abstract: Betty and Barney Hill claimed they were taken inside a flying saucer where they were subjected to quasi medical examinations by alien entities. The story is too well-known to be repeated here. This article attempts to examine the credibility of the witnesses and the factors that made this a “classic” alien abduction.

Keywords: Betty and Barney Hill, Physical evidence, Abduction, Alien encounter, Fantasy, Racial factors, Star map, Hypnotic regression, Missing time, Telepathy, Medical examination, Dreams

Stress as a Factor

There has been considerable speculation about the stresses the Hills were under at the time. They were an inter-racial couple at a time when such relationships were frowned upon. Barney worried about his children from a previous marriage, and his job as a postal worker involved a considerable amount of commuting. Betty was a social worker and both of them were actively involved in civil rights campaigns. They had gone on their fateful trip on a whim without taking much money with them, and they were heading home at night to avoid bad weather.

Throughout his testimony Barney shows clear signs of being hunted and on the very night of their encounter he is fearful of encountering people. As further sign of his state-of-mind he hides a handgun in his car in case there is any trouble.

Ufologist Peter Rogerson notes that even Barney’s description of the UFO he saw through binoculars indicated he was in a traumatized state of mind:

Anyone who reads Barney’s encounter in the field with the light (in the sky–N.W.) must suspect that his extreme reaction was more likely to have been a symptom of preexisting post-traumatic stress than something new. His description of the alien as having a Mongolian-type face, wearing a sort of leather jacket and a scarf is curiously reminiscent of a kamikaze pilot. This figure is also seen as an evil Nazi officer and an Irishman (Boston Irish, traditionally hostile to Blacks). In other words, reflected in the unknown light, Barney sees images of evil authority, intolerance and threat.¹

Physical Evidence

At this stage we could just dismiss their abduction recollections as a fantasy that was triggered by Jupiter, the Cannon Mountain Observation Tower beacon, or other equally mundane sources of light. Yet, there are several other supporting pieces of evidence that we have to consider.

Project Blue Book report card 10073 notes that the North Concord early warning radar station, Vermont, detected an erratic, slow moving object, at high altitude on September, 19, 1961. This

¹ “Fairyland’s Hunters: Notes Towards a Revisionist History of Abductions. Part Two.”
<http://magoniamagazine.blogspot.com/2013/11/fairylands-hunters-notes-towards.html>

was 6 or 7 hours before the Hills' UFO sighting and only 33 miles from their sighting location. It was observed for 18 minutes. From this data it was concluded that this was possibly a weather balloon. An addition to the card notes:

During a casual conversation on 22 Sept 61 between Major Gardiner B. Reynolds, 100th B S DC01 and Captain Robert O. Daughaday, Commander 1917-2 AACCS DIT, Pease AFB, N.H., it was revealed that a strange incident occurred at 0214 local on 20 Sept. No importance was attached to the incident at the time.

In the base's daily report, it states that it was detected on their precision approach radar at a distance of 4 miles, it pulled up half-a-mile away, and then they only saw a weak target that made a low approach. No aircraft was seen visually, and the official verdict was that it was caused by a temperature inversion or similar natural causes.²

After their encounter they found six strange, shiny spots the size of a dollar on the car's trunk. Betty thought they might have been radioactive, so she ran a compass over them. The compass needle moved erratically when Betty did this test, but when Barney tried it, the needle acted normally. Whether these spots were radioactive or not, it was presumed that they were caused when they heard the strange beeping sounds, which seemed to come from the trunk of their car.

A more mundane explanation is given by Karl Pflock who notes that when the Hills got home they found the lid of the trunk was not closed properly. This could have happened just before Barney's first close encounter with the UFO when he took a handgun out of the car's trunk. In his panic-stricken state he could easily have left the lid unlatched, thereby causing the strange sounds when the car roared away.³

Following the encounter, the top of Barney's toe caps were found to be scuffed. This would substantiate his statement that he was dragged by his arms towards the landed UFO when he was abducted.

The dress Betty wore during the abduction was found to be covered in a pink powder. When this was shaken off it left pink stains behind. She also found the hem and seams torn. The patterned, purple dress has been kept in her closet and over the years she cut sections off it to satisfy the requests of laboratories throughout the world.⁴ So far no one has provided any evidence that it is of exceptional, let alone extraterrestrial origin.

Even weirder, Betty claimed that six to eight weeks after their encounter they returned home to find a pile of leaves on their kitchen table. They had just been back to the mountains searching for the location of their encounter to see if it triggered any memories. When cleaning up the mess she found the blue earrings she had been wearing the night of the encounter. She quite reasonably wondered how she lost them and how they got in their home. What this indicated to her was that

² "Radar Reports Prior to Hill Case." <https://www.nicap.org/reports/0450-74.htm>

³ "'Beep-Beep!' Went The Saucer?" Karl Plock, *Saucer Smear*, Volume 47, No. 10. December 1, 2000. <http://web.archive.org/web/20130828165237/http://www.martiansgohome.com/smeat/v47/ss001201.htm>

⁴ "Betty Hill - The Grandmother of Ufology." Interview by Avis Ruffu conducted in 1991. <http://www.ufoevidence.org/documents/doc1182.htm>

the aliens had stolen her earrings and they knew where they lived.⁵

The most powerful piece of evidence to support their claims was the notorious Star Map. Working in conjunction with Betty, amateur astronomer Marjorie Fish created a three-dimensional map of the star system that matched the Star Chart seen onboard the flying saucer. This seemed to indicate that the aliens originated from the double star system of Zeta Reticuli. Skeptics have convincingly argued that Betty's Star Map consists of vague dots and lines that could be matched with a whole range of stellar systems. Indeed, there have been at least 6 other attempts to match the home of the aliens with other star systems or even our own Solar System that are as (in)credible as Zeta Reticuli.

A Fantasy?

The bottom line is that the main evidence for this abduction comes from the testimony of the Hills that comes from a combination of nightmares and accounts given under hypnotic regression. They came across as sincere and truthful people to everyone who interviewed and met them. Though this was undermined by Betty's many subsequent claims of psychic events and sightings of hundreds of UFOs, many of which could be easily explained.

Betty Hill died of lung cancer at her home in Portsmouth on October 17, 2004. She was mourned by the UFO community as a true pioneer. One person went as far as to say that she was the ufological equivalent to Lindberg. Others had some doubts about her credibility. Bryan Daum, who was a junior officer copilot stationed at Pease Air Force Base, remembered meeting her twice in the late 1970s. The first time was in the library of the base where she gave a talk about sightings in the area. About a year later he saw a box-like UFO and decided to visit Betty to see if she knew if anyone else had seen such a thing. Meeting him in her garden, she affirmed such sightings and added that they sometimes flap their wings. Her wild eyed manner made him think "she was really crazy and (I) quickly got into my car and drove away".⁶

UFO skeptic Robert Shaeffer was also unconvinced by Betty:

I was present at the National UFO Conference in New York City in 1980, at which Betty presented some of the UFO photos she had taken. She showed what must have been well over two hundred slides, mostly of blips, blurs, and blobs against a dark background. These were supposed to be UFOs coming in close, chasing her car, landing, etc... After her talk had exceeded about twice its allotted time, Betty was literally jeered off the stage by what had been at first a very sympathetic audience. This incident, witnessed by many of UFOlogy's leaders and top activists, removed any lingering doubts about Betty's credibility – she had none. In the oft-repeated words of one UFOlogist who accompanied Betty on a UFO vigil in 1977, she was "unable to distinguish between a landed UFO and a streetlight."⁷

⁵ Interview with Betty Hill. Held at her Home in Portsmouth, New Hampshire on Thursday, October 1, 1998 by Peter Huston.

<https://web.archive.org/web/20070121013509/http://www.capital.net/com/phuston/bettyhill.html>

⁶ "Betty Hill Credible?" by Bryan Daum, *UFO UpDates Mailing List*, October 22, 2004.

https://files.afu.se/Downloads/Discussion-Lists/UFO%20UpDates/2004/UFO%20UpDates_2004_10_October.pdf

⁷ "Over the Hill on UFO Abductions," by Robert Sheaffer, p. 3.

<https://cdn.centerforinquiry.org/wp-content/uploads/sites/29/2007/11/22164518/p52.pdf>

There are also several fantasy or folkloric elements to the encounter. Like visitors to the fairy otherworld, Betty is not allowed to take away a souvenir as physical proof of her experience. And the *Kalendrier des bergiers*, a fifteenth century French calendar shows, demons torturing people by inserting long needles into their stomachs, indicating a primal fear generated long before flying saucers took to the skies.

Inconsistencies

There are several inconsistencies in their abduction story. They showed extreme anxiety when recounting the incident, yet Betty said to the “leader” alien as she was leaving the spaceship: “This is the most wonderful experience of my life. I hope you'll come back. I got a lot of friends who would love to meet you.”⁸

Other inconsistencies occur in the description of the aliens. Betty at first described them as having Jimmy Durante noses but this was dropped in later recollections. Barney said they communicated via some form of telepathy whilst Betty’s aliens spoke to her in English. The aliens also seemed to have selected areas of knowledge and ignorance. For example, they were puzzled by Barney’s false teeth yet had an otherwise good knowledge of human anatomy.

It has also been stated that the Hills had little knowledge about UFOs or science fiction, yet The Immanuel Velikovsky Archive website contains a copy of a letter from Betty dated March 9, 1968, addressed to Dr. Velikovsky, beginning:

*Since 1950 I thought that someday I would write to you, for at that time I discovered your “Worlds in Collision.” At that first reading, my emotional experience was one of shock, but I accepted your theories quickly, for they answered many of my own questions: If man has been in existence for so many ages, where has he been and what has he been doing? These theories helped me to solve this riddle.*⁹

The book claims that in the 15th Century BC, Venus was blasted from Jupiter and as it passed the Earth it caused numerous catastrophes that are recorded by worldwide mythologies and religions. His thesis intrigued the public who made the book a bestseller, but scientists have found it unconvincing. James Fitton, who was working on his Roman history dissertation at McMaster University in the early 1970s, wrote that:

*In at least three important ways Velikovsky's use of mythology is unsound. The first of these is his proclivity to treat all myths as having independent value; the second is the tendency to treat only such material as is consistent with his thesis; and the third is his very unsystematic method.*¹⁰

This shows Betty had more than a passing interest in space topics and what have become known as Ancient Alien theories.

⁸ Interview with Betty Hill. Held at her Home in Portsmouth, New Hampshire, on Thursday, October 1, 1998 by Peter Huston.

<https://web.archive.org/web/20070121013509/http://www.capital.net/com/phuston/bettyhill.html>

⁹ <https://www.varchive.org/cor/various/680309hillv.htm>

¹⁰ “The Lost Critique.” <http://defendgaia.org/bobk/vfitton.html>

Racial Aspects

Barney was intensely aware of his racial background, and it is significant that he thought he saw an evil Nazi alien looking at him when he originally viewed the UFO through binoculars. On these slim grounds this has led some to speculate that this proved their encounter was with a craft built under an alliance of the CIA, Nazis, and the aliens.

‘Betty in her dreams becomes the heroine who stands up to the grey meanies, tells them off (after all she is a Barrett of New Hampshire). Don’t these dreams emphasize who wears the trousers and has the balls in this family?’

*What is Barney afraid of, but which Betty Barrett of New Hampshire can stand up to. Look at the pictures of the aliens with their caps, jackets, and trousers, remember those charts and that mutinous crew. Charts aren’t much use in spaceships hopping between stars through wormholes, using space warp or the Z process which no human mind could ever understand. These are images of ships and the sea. These are sailors. What kind of sailors steal people? Slavers of course. We have all overlooked this because we are not black. This is the central fear which grips Barney, the terrible others who are both us and not us are going to take him back into slavery. Betty comes from the dominant white culture, she cannot feel the fear of being turned back into a slave. She can stand up to the crew. In her vision the sailors are more like a chaotic pirate crew.*¹¹

In a letter to UFO skeptic Philip J. Klass, dated March 1, 1976, Dr. Simon asserts that this was more a case of ‘dual amnesia’ and ‘racial paranoia’ rather than an alien abduction:

*Until (John) Fuller got his hooks into it lay fallow as a record of a successful medical study of a dual amnesia situation. My interest in UFOs was almost entirely on the phenomena of Barney Hill’s developing racial paranoia which seemed to me to have been the best representation on the matter I had seen. The ultimate impact on other events, such as a probable UFO experience, served only to amplify the situation, not to create an explanation of UFOs or similar phenomena.*¹²



Betty Hill with a color painting of her alien visitors created by David G. Baker in 1967. This painting now resides in the Hill Archives at the University of New Hampshire. Credit: Clas Svahn/AFU.

¹¹ “Encounters at Indian Head,” by Peter Rogerson. <http://mrobsr.blogspot.com/2012/08/encounters-at-indian-head.html>

¹² Betty and Barney Hill Scanned Documents, p. 8.
www.debunker.com/historical/BettyHillBenjaminSimonPhilipKlass.pdf

Alternative Explanations

One explanation for Barney's stressful recollections under hypnotic regression is that he was influenced by accidental awareness, which occurs under general anesthesia. Barney had undergone a tonsillectomy and perhaps the trauma of it induced a flashback to that event under hypnosis? Anne Skomorowsky, an Assistant Professor of Psychiatry at Columbia University, notes that:

*He was cold. His eyes were closed. He didn't want to be operated on. Then he woke up under general anesthesia, to full-blown terror, surrounded by distorted beings, squinting in the blue light of the OR. Perhaps the pain and horror of awareness overwhelmed his mind, or maybe it was the anesthetic drugs, but somehow the experience disappeared from his working memory - until he and Betty came to believe they had crossed paths with an unidentified flying object on a dark and lonely New Hampshire road.*¹³

Barney, under hypnosis, confirms that he tried to keep his eyes closed throughout the abduction experience and when he did briefly open his eyes, he saw a pale blue hospital operating room. Mark Harrison, in his dissertation on *The Extraterrestrial in US Culture*, notes:

*This motif of medical examination, which would become a standard trope in the abduction narrative, spoke to a number of basic matters. It placed the abductee in a subservient position, rendered them as an object to be observed and assessed, and underlined the fundamental embodiedness of the experience. Aside from moments of pain, it is rare that we are so aware of our bodies as organisms than when the object of medical scrutiny.*¹⁴

It is Martin Kottmeyer's contention that bad movies and medical quackery are the prominent influences on Betty's imagination, rather than alien medical procedures. Cases that have followed are merely examples of cultural transmission and elaboration.¹⁵

In a letter to Philip Klass, dated November 28, 1975, Betty reveals her feelings about their interaction with Dr. Simon:

*On the tapes there are many more hours of Barney's experience than mine. Barney's examination on board the craft was different from mine. Barney told of them taking out his teeth and I told of them trying to take out mine. In fact, there were times I was angry with Dr. Simon because he spent so much more time with Barney, both during the hypnosis sessions and later at his home.*¹⁶

This anger about the attention on Barney seems very strange as his continuing trauma and ill health was the main reason for these sessions. It indicates that Betty wanted to be the star of the show and was more interested in proving they had an alien abduction than anything else.

¹³ "Alien Abduction or 'Accidental Awareness'?"

<https://www.scientificamerican.com/article/alien-abduction-or-accidental-awareness/>

¹⁴ "The Extraterrestrial in US Culture," dissertation by Mark Harrison, p.181.

<http://d-scholarship.pitt.edu/6666/1/TheExtraterrestrialinUSCulture.pdf>

¹⁵ "Betty Hill's Medical Nightmare," by Martin Kottmeyer.

<http://www.users.waitrose.com/~magonia/ms12.htm>

¹⁶ Betty and Barney Hill Scanned Documents, p. 23.

www.debunker.com/historical/BettyHillBenjaminSimonPhilipKlass.pdf

Symposium

In September 2000 Karl Flock and Peter Brookesmith organized a symposium at the Indian Head Inn, New Hampshire, sponsored by Joe Firmage (at that time a Silicon Valley multimillionaire), near to the site of the abduction. In attendance were the editors, moderator Marcello Truzzi, Robert Sheaffer, Dennis Stacey, Eddie Bullard, Hilary Evans, Greg Sandow, and a guest appearance by Betty with her niece Kathleen Marden. This became the basis for the book, *Encounters at Indian Head: The Betty and Barney Hill UFO Abduction Revisited*, which has contributions from those at the symposium and by Martin Kottmeyer and Walter N. Webb.¹⁷

In his detailed review of the symposium Robert Sheaffer pulls no punches by stating that:

Not a single participant in the symposium was willing to describe the Betty Hill we heard first-hand as a credible witness; nonetheless, a number of them still were inclined to accept her story of alien abduction...

At the end of the day, not surprisingly, no consensus was agreed over whether the Hills had a real encounter with aliens or imagined it.¹⁸

Conclusion

Betty and Barney Hill were hardworking and well-respected members of their community, and their emotional recall of their abduction under hypnosis is particularly powerful and believable. As it was such an unusual case even ufologists did not know what to do with it and it took a journalist to bring it to worldwide attention. Whether they saw an extraterrestrial craft follow them, or they experienced any missing time during which they were abducted, is subject to much debate.

In a review of the case Brian Dunning described Betty Hill as:

*A woman who clearly had an obsession with UFOs (she) saw a light in the sky that her husband described as an airplane. She then spent two years writing an elaborate story and no doubt telling and retelling it to her husband. Later, under hypnosis, Barney was asked about the events described in Betty's story, and surprise, surprise, he retold the story she'd already told him a hundred times, with an added dash from The Outer Limits episode of twelve days before. So far, we have a tale that's hard to consider reliable.*¹⁹

Peter Rogerson is equally unimpressed by their description of the aliens:

The Hill's (sic) aliens are very poor aliens indeed, they are just far too human. They look more or less like us, except for a few minor anatomical differences, far less than the differences between humans and their very close cousins the chimpanzees. They act like people, they have books, and maps, and mutinous crews, they wear uniforms. Their technology was getting old fashioned in 1960, its levers and wall map positively antiquated by now. Their conversations are self-

¹⁷ Karl Pflock and Peter Brookesmith (eds). *Encounters at Indian Head: The Betty and Barney Hill UFO Abduction Revisited*. San Antonio, Texas, USA, Anomalist Books, 2007.

¹⁸ Robert Sheaffer, "Betty's Last Hurrah - A Secret UFO Symposium in New Hampshire," Bad UFOs blog at: <https://badufos.blogspot.com/2015/05/betty-hills-last-hurrah-secret-ufo.html>

¹⁹ "Betty and Barney Hill: The Original UFO Abduction," by Brian Dunning. <https://skeptoid.com/episodes/4124>

contradictory.

The Hill story reads like a product of the human imagination, replete with human imagery and human concerns, and that is what it almost certainly is. Its story line must be derived from the lives, hopes and fears of the Hills. ²⁰

Betty and Barney Hill are at first-sight credible witnesses to an incredible encounter. Yet, Betty's dreams and conviction that aliens are visiting our planet drove the narrative, and the evidence to back up these claims is very circumstantial and/or inconsequential to say the least.

Much attention has been given to the Star Map as it supports the ufological belief in extraterrestrial visitors, this has been at the expense of considering the social and psychological context of their encounter. Stress, fantasy, and preconceptions seem to have come into play during their drive home on that fateful night and continued to influence them ever afterwards. Betty was a forthright intelligent woman but that did not stop her being gullible enough to think virtually any light in the sky is a UFO that indicated the fantasy-prone side to her character. Given her predisposition towards believing in UFOs and her subsequent sightings, why should we regard her encounter and abduction on September 19/20, 1961 as any more different or substantial?

In a letter to Philip J. Klass from Dr. B. Simon dated October 28, 1975, he states:

Let it be known that I have never deviated from my conviction that the "sighting" took place. What was sighted, I don't know, nor do the Hills know. I am also sure that the "abduction and examination" did not take place except as Betty's dreams. ²¹

Whatever is said their case is now a cornerstone for belief in alien abductions. For such an important event the physical evidence is very flimsy and the witness testimony, although powerful, does not carry much weight as evidence for an encounter with a real spacecraft and its occupants. Nonetheless, over the years it has had a powerful influence on ufology and the belief in alien abductions that has migrated into mainstream popular culture. This is another example of UFO lore, like Roswell or the Rendlesham Forest Incident, that has gone from being an incredible story of a UFO and dreams to a credible story of alien contact in the minds of UFO believers, and "improves" over the years.

²⁰“ Encounters at Indian Head,” by Peter Rogerson. <http://mrobsr.blogspot.com/2012/08/encounters-at-indian-head.html>

²¹ Betty and Barney Hill Scanned Documents, p. 2.
<http://www.debunker.com/historical/BettyHillBenjaminSimonPhilipKlass.pdf>

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Metamorphosis: Claimed Witness Accounts of the Great Lakes Fireball of December 9, 1965

Robert R. Young

Abstract: On December 9, 1965, a bright meteor fireball was seen from 10 states and Ontario. Searches at 17 locations recovered no meteorites or debris. Astronomers used photographs, a seismic record and eyewitness accounts to determine an end point and probable orbit. Media coverage and UFO investigators kept alive a mystery narrative. At least 14 nationally broadcast TV programs over the next 24 years stimulated new witnesses and narratives with their dramatic details. Stories repeating classic flying saucer myths allowed others to join in retelling this folkloric tale.

Keywords: Great Lakes fireball, Kecksburg, UFO crash, Cosmos 96, Folkloric tale

The fireball

On December 9, 1965, at 21:43 UT, plus or minus 10 seconds, a brilliant bolide (exploding) meteor brighter than a Full Moon was seen from ten U.S. states and the Canadian Province of Ontario. The visible fireball changed from yellow to orange; lasted about 4 seconds; brightened at one or more points, and finally burst leaving a “smoke” train visible for up to an hour. [1]

One researcher estimated there could have been 1.3 million potential witnesses. [2] There were hundreds of reports collected for this object visible in the bright sky just before sunset. G. W. Wetherill, a geophysics and geology professor at the University of California at Los Angeles collected accounts from more than 100 witnesses including some on the South shore of Lake Erie who reported the fireball disappearing to the North over the Lake. “Almost everyone who saw the fireball thought it was much closer than it really was,” he wrote. [3] This is particularly true with observers on the outer edge of the viewing area where meteors seem to drop just on the other side of trees or buildings.

In published 1965 accounts it was said to have “crashed” or “landed” in at least 17 places in six states and interviewers found many more. Several witnesses claimed to have found slag-like rocks and old radar chaff was found. None of these materials were ever shown to be associated with the meteor. [1] The most spectacular report came from Detroit and Windsor, Ontario, where pilots, weather observers and U.S. Coast Guard personnel reported a flying object had “exploded” over Detroit. Coast Guard boats sent into Lake St. Clair found nothing.

Fortunately, photographs of the train were taken within seconds by two widely spaced photographers in Michigan, Lowell Wright at Orchard Lake, Michigan, and Richard P. Champine East of Pontiac (Figure 1). These and data from a seismic station of the Geophysics Laboratory of the University of Michigan at Ypsilanti, allowed astronomers Von Del Chamberlain and David J. Krause to determine an endpoint and estimated orbit. The fireball was found to be falling steeply Northeastward over extreme Southwest Ontario. Although the velocity of the object in the atmosphere is uncertain, a value of 14.5 km/sec was adopted from the photographer’s estimates. This would give an orbit out to between Mars and Jupiter, near the asteroid belt, source of many bright meteors. The object would have been in a prograde orbit, similar to most solar system

objects. [4] The speed would be well within the speed of meteors and about twice that of returning space debris in a shallow, decaying orbit.

Chamberlain and Krause obtained 66 eyewitness accounts; Wetherill 23 accounts from pilots via the U.S. Federal Aviation Administration, many of whom thought a plane had gone down over the Lake. Canadian astronomers also used 120 eyewitness reports to establish the end point and search for meteorites in the snow-covered terrain. None were found. [5]

All 1965 broadcast and published eyewitness accounts for which a direction was given or can be inferred can be explained by the 16:43 (EST) fireball over Lake Erie, searches for its debris, and associated excitement. [9]

Media Excitement

The public was primed, however, for “out of this World” explanations. Newspapers and TV were filled with news that day of the launch of an American Gemini spacecraft with two astronauts for the first rendezvous of two manned spacecraft, Gemini 6 and 7.

In Pittsburgh, Pennsylvania, well-known flying saucer lecturer, broadcaster and writer Frank Edwards was on a call-in show on 50,000-watt KDKA Radio promoting his popular paid lecture in the city the next day when he would discuss Government coverups and saucer lore. Edwards recalled that after the fireball the phones lit up with callers. He attributed the event to a bright meteor. [8]

UFO writer Ivan Sanderson filed a story three days later with the North American Newspaper Alliance widely used and later reprinted in *FATE* magazine. He apparently spoke to no witnesses, relying on calls to State Police desks and news reports. [7] He used only published reports of witnesses in four locations, ignoring dozens more, and naively assumed that the fireball was at their locations, not visible for hundreds of miles around. His speeds were based on widely varying published times; he made a mistake, substituting miles/hour instead of miles/minute, slowing down his object’s flight by 60 times. His assumed path plotted on a hand-drawn map from Lapeer, Michigan, to Elyria, Ohio, would be at an azimuth of 152 degrees, and from Elyria to Kecksburg, Pennsylvania, would be at an azimuth of 120 degrees, a difference of 32 degrees, not 25 degrees as Sanderson claimed. An object using Sanderson’s path would pass over Pittsburgh, where it apparently was unnoticed, but would pass no closer than 26 miles (42 km) to the south of Kecksburg, his assumed endpoint. Had he used a real map, as I did [10] or had UFO enthusiasts merely checked his arithmetic, Sanderson’s article which jump-started the myth of a slow-moving, “maneuvering UFO” would have been dismissed in 1965.

The next year Edwards published his popular book *Flying Saucers - Serious Business*, the first saucer book to sell a million copies. In it he made fantastic claims about the December 9, 1965, event, very similar to claims he made about a 1947 Roswell, N.M. incident, which he had been making for years in his popular lectures. He misquoted Sanderson, claiming that “Sizable contingents of various military units” were “already present,” when police and searchers arrived. He must have had misgivings because in his next book, *Flying Saucers - Here and Now!* when he listed supposed UFO crashes and recovered debris he never mentioned the incident.



Figure 1. The December 9, 1965 fireball trail. Credit: Richard P. Champine. Used with permission.

The Kecksburg “crash”

One of the places where witnesses saw the fireball or its cloud train was Kecksburg, Pennsylvania, a small village about 30 miles (48 km) East of Pittsburgh. There, eight-year-old Nevin Kalp told his mother he had seen “a star on fire.” Going outside, his mother reported seeing a puff of smoke over nearby woods. She did nothing for more than an hour until listening to Edwards talk about UFOs on KDKA. The witness then called local Greensburg, Pa., radio station WHJB that had been reporting an airplane crash to tell them it was the fireball; then she called the Pennsylvania State Police. The station filed a report to wire services. The author plotted a line from Kalp’s location toward the location of the Lake Erie fireball, at azimuth 305 deg. to 309 deg. pointing directly toward the site of subsequent searches (Figure 2). [10, 11] Police and local fireman searched unsuccessfully until about 21:00 pm.

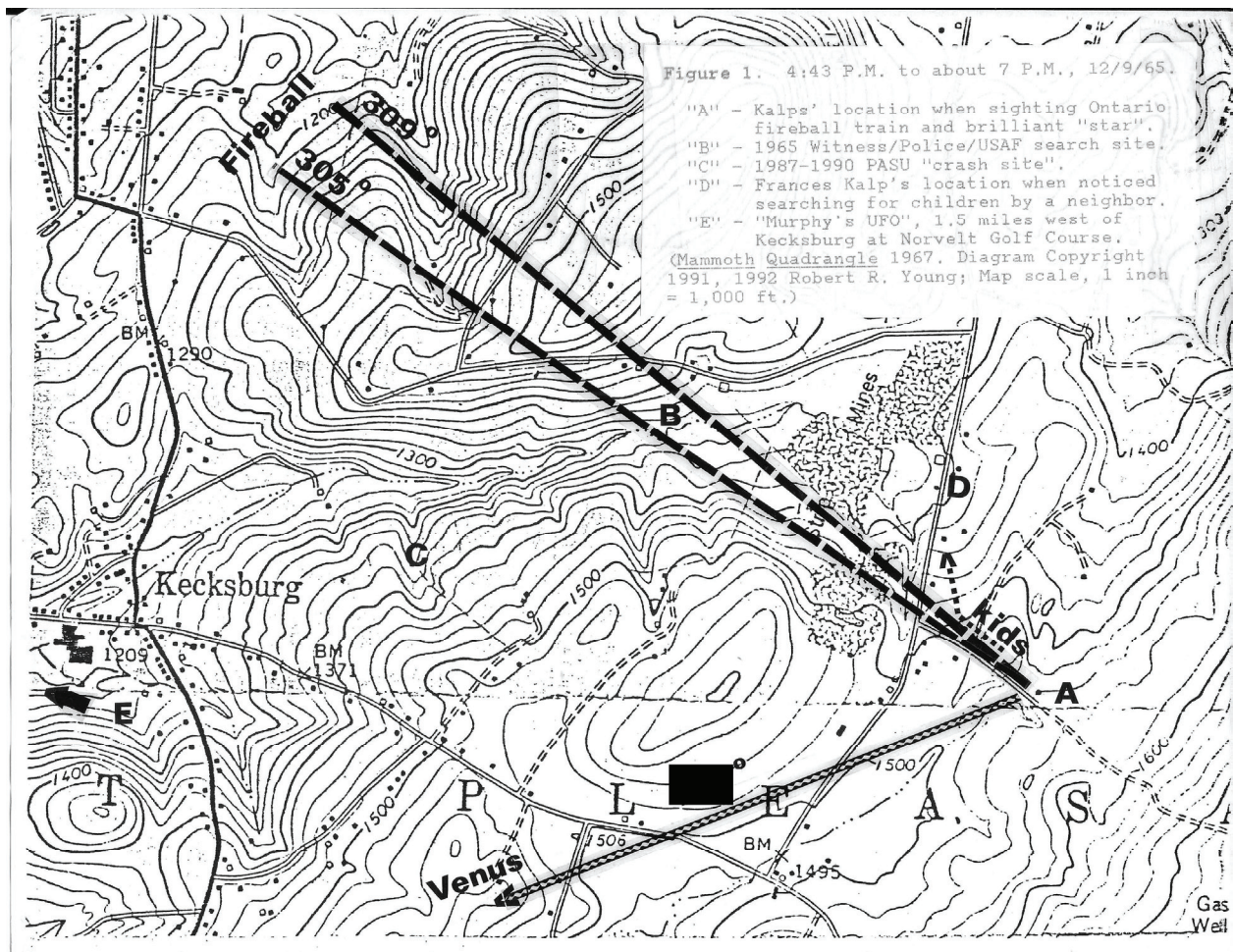


Figure 2. 1965 Kecksburg witnesses reported a fireball and puff of smoke in the direction of the Ontario fireball and a 1965 search at "B." Decades later new "witnesses" described a crash site and object at "C." A 1965 newspaper article had mistakenly reported this location, 1/2 mile (800 m) away on another farm. For decades it remained the only published location of events, misleading ufologists. "Murphy's UFO" ("E") was 1.5 miles (2.4 km) West of Kecksburg at the site of burning brush at the Norvelt Golf Course construction site. (1 inch = 1,000 ft; 1 cm = 120 m; contour lines represent 20 ft intervals above sea level).

Military Involvement

In 1965 the U.S. Air Force investigated UFO reports under the authority of Air Force Regulation 200-2. [12] Its Project Blue Book, located at the Air Technical Center at Wright-Patterson Air Force Base, Dayton, Ohio, received initial reports from "UFO officers" at each USAF installation. They seemed to be particularly interested in possible recovery of returning space debris. [13]

Blue Book received a call about 18:35 EST from the Air Force Defense Command alerting them to expect UFO reports, relaying information about reports received by the Detroit Air Defense Sector. After an AP wire service story, it was decided to send four men from the nearest USAF installation, a radar site West of Pittsburgh, where the USAF 662nd Radar Squadron (SAGE) was based on the U.S. Army Engineers Support Facility at Oakdale. The Squadron also sent three men to Erie, Pennsylvania., to investigate a pilot's report of the fireball to the West over the Lake. This

Erie, Pennsylvania investigation always seems to be ignored by proponents of a UFO because it doesn't support their theory of a maneuvering object which ended near Kecksburg.

The myth of U.S. Army involvement seems to have begun when a local reporter spoke to a fireman who said "Army engineers." were coming. This was reported in an early edition of the newspaper [16] and later repeated elsewhere. No 1965 news reports or witnesses actually reported seeing "Army engineers".

WHJB-Radio News Director John Murphy began broadcasting live from what he thought was a crash site where he reported seeing smoke and sparks, about 1.5 miles (2.4 km) West of Kecksburg where brush and trees were being burned at the Norvelt Golf Course. Eventually he made his way to the actual search location where he interviewed onlookers and police. Some locals derisively called the fire "Murphy's UFO," memorializing his role in the creation of the crash myth.

The next week Murphy produced a radio special, "Object in the Woods," in which he reported no large military presence except seeing three Air Force men in the back seat of a police car. He identified them as members of the "Army 662 Radar Squadron," showing that five days later he was still confused about the identity of the military present. This kept alive the myth of Army involvement. The station included a statement that no government agency had intervened regarding the broadcast, and they had all the cooperation they needed from the police and other officials. [15] There is no documentary or other evidence that anyone but these Air Force UFO investigators, State Police and local firemen were involved.

Light in the Woods

The 662 RAD Sq. people arrived about 21:00. By then reports were coming from fireman of intermittent "blue lights" flashing in the woods. The Air Force men wanted to take a look, leaving one officer at the Greensburg police barracks to communicate with Oakdale. They and the police conducted a second search by flashlight and a fire department light truck. A road (later officially named "Meteor Rd.") had been closed at either end by the Fire Marshal to allow possible fire truck access to what had at first been reported as a plane crash. The two roadblocks were manned by members of the Mt. Pleasant Township Auxiliary Police, not the military.

The flashing lights were created by several teenagers running through the woods flashing a camera strobe. The author obtained a long, signed statement from a participant which can account for the location and timing of the lights, which attracted spotlights from a crowd along Meteor Rd. [11] The local paper reported in an editorial two days later that its staff had concluded that nothing had come down and that the lights were the result of a TV news crew and photographers in the woods. [6]

The Searches

The second search was also unsuccessful, and the Air Force people left about 02:00 the next morning. Blue Book's chief Major Hector Quintanilla reported to his superiors at the Air Force Command Post that the search had been fruitless, and the fireball had been a meteor. [14] The Air Force announced the next day it had been a meteor. [21]

Three newspapers, a Pittsburgh TV station, and Murphy were present during the searches and never reported armed troops, convoys or objects in the woods. The next day, in daylight, the State Police and news media conducted a third search, finding nothing. State Police Troop A Commander Joseph Dussia said the search, “uncovered absolutely nothing,” and that people had, “made a mountain out of a molehill.” [17]

Enter the Ufologists and Local Supporters

Major 1960’s civilian UFO groups didn’t take the fireball seriously. The largest group, the National Investigations Committee on Aerial Phenomena, had a Pittsburgh chapter and considered it a meteor. [31] Neither it nor the Aerial Phenomenon Research Organization submitted the case during congressional hearings or to the Air Force funded University of Colorado Project several years later.

Fourteen years later, with the help of UFO enthusiasts, the story was revived on a call-in show on KDKA-Radio November 6, 1979. UFO proponents Leonard Stringfield, a publisher of UFO stories from Ohio; Clark McClelland, a local investigator, and famous “abductees” Travis Walton and Betty Hill took phone calls. McClelland discussed the 1965 incident and the possibility that a Soviet spacecraft, Cosmos 96, had crashed at Kecksburg. Four callers claimed to be 1965 witnesses. [24] Two said that they saw only lights, but one said he had been the Kecksburg Fire Chief and later described being 25 ft. (7.6 m) from a large 10-ton (9.1 metric tons) military truck surrounded by armed military guards with a 6 by 7 ft. by 17-ft. long (1.8 x 2.1 x 5.2 m) object on the back. This witness told his story in various versions for ten years. He was not the 1965 Fire Chief but was Chief later and Kecksburg Fire Company President in 1990 when an “Unsolved Mysteries” TV show was filmed with the assistance of some fire company members and supporters.

In December 1990 Kecksburg firemen had a “25th Anniversary celebration” and “UFO dance”, selling commemorative t-shirts, hats, license plates and clothing to benefit the company. The 300-lb (136 kg) UFO model used in the TV show was mounted on the roof of the old firehouse. [22, 32] Curiously, in 1979 there had been a 50th anniversary celebration and banquet for the fire company. During historical remembrances, no mention of the 1965 incident or UFO had been made. [19] While filming in town it became known that the film’s “fire chief” was not; his interview and participation was dropped, with a well-known local actor playing his part.

Cosmos 96

A Soviet spacecraft destined for Venus, Venera 3, also known as Cosmos 96, had been launched 16 days earlier. It failed to leave parking orbit and reentered over northern Canada 13 hours before the Great Lakes fireball. [33] This coincidental event led investigators astray for many years, the first of several unsuccessful efforts to explain the Kecksburg story. In 1987 during a “International UFO Information Week” exhibit at a mall a local UFO group discussed the Kecksburg events, displaying a picture of a painting by a Soviet artist of Venera 3, complete with Cyrillic writing around its edge. Out of the crowd came a witness, James Romansky, who said he saw an acorn-shaped object in the woods, with “hieroglyphics.” His claimed location matched the estimated location the investigators had come up with, convincing them that he was “the real deal.” A local paper in 1965 had published a mistaken location, placing the search 1/2 mile (800 m) from Kecksburg, but the actual search was on another farm, 1 mile (1.6 km) from town [11]. For decades

this remained the only published location. Locals who were 1965 witnesses have told the author this is how they know if a new claimed participant was really there.

National Media Explosion

The event that launched the Kecksburg search into “outer space” was the NBC-TV program “Unsolved Mysteries,” September 19, 1990. [18] This was the tenth most watched program in a week when the season’s new shows were introduced. It reached tens of millions in an estimated 17.7% of American households with television, on 30% of sets turned on. [20] It has been repeated many times. Over the next 24 years six more nationally televised US and Canadian programs have featured and portrayed the Kecksburg UFO and recovery claims, sometimes including dramatic effects from new claimed witnesses. Several did include statements about the meteor fireball by skeptics of a crash, including the author, but most repeat the dramatic story first presented in this 1990 program, including a privately produced video sold by local ufologist Stan Gordon.

Promoters of a crash claimed there were few doubters in Kecksburg, but five doubters had actually been interviewed by a producer for the “Unsolved Mysteries” show, three agreeing to go on camera. They were never contacted during filming. [25] 45 residents and property owners sent the producers a petition saying the crash and recovery didn’t happen. They were there. Astronomer Von Del Chamberlain had been contacted about his research six months before, had sent a copy of his paper, and been interviewed by phone. He stressed that the object was a meteor, not a mystery. This was not mentioned in the show, nor was the existence of the Michigan photos used in his article revealed. [26] Instead, Stan Gordon was shown sketching a hand-drawn map reciting Sanderson’s old theory about a maneuvering UFO.

Two witnesses claiming to have seen the object in the woods noted the acorn-like object portrayed in the program was shorter than what they saw, but they understood that was for “transportation” reasons. It seems the show’s producers were unable to procure a “ten ton” (9.1 metric tons) old military truck, substituting a 2 1/2-ton (2.3 metric tons) truck. Later “witness” accounts and portrayals of the myth now seemed to fit the iconic scene first presented by “Unsolved Mysteries.” The 17-foot long, 7-foot wide mystery object had metamorphosed into an acorn shape like the propaganda version of Cosmos 96.

More than 100 “new” witness called the “Unsolved Mysteries” phone hotline after the 1990 broadcast. While many remembered the event, searches, and excitement, three men claimed to have seen the object at Top Secret military bases in Ohio [23] as well as “alien bodies” and a “spaceship.” Soon identical “acorns” were appearing in reports from California and the USSR.

Alien Bodies

What would a saucer crash story be without the little pilots’ bodies? Kecksburg would have it all. The late Flying Saucer evangelist and founder of the 20th Century UFO Bureau Robert D. Barry announced on his weekly television program that the military had recovered bodies at Kecksburg, citing a source from Westmoreland County (Kecksburg area). His show was fed to a score of TV and cable stations and could be received over much of the U.S. and Canada via satellite. He withdrew this claim three weeks later. [27]

The Kecksburg UFO's Columbus Connection

Soon stories by people claiming to be former military personnel surfaced placing the recovered UFO at Lockbourne and Wright-Patterson Air Force Bases in Ohio. [30] The Lockbourne accounts bear curious similarities to a 1954 tale from the Columbus which proved to be untrue or unsubstantiated. [28] Parts of this earlier story seem to have been lifted almost verbatim from *Behind the Flying Saucers* by Frank Scully. This 1950 best-seller, one of the first American flying saucer books, was based on a hoax by a mysterious "Dr. Gee," actually Leo Gebaur, owner of a Phoenix radio parts store, and has stimulated many "UFO crash" tales.

There are 19 parallels between the 1954 Columbus saucer crash and the Scully tale, including eight which seemed to have been lifted verbatim. For example: Scully had called for a WAC with Army Intelligence to come forward publicly with a woman's perspective on how the aliens managed to live in the 30-foot (11 m) disks. "Miss Y" was first described as a WAC at Wright-Patterson Air Force Base, an Air Force intelligence headquarters, but this was untrue. Scully described a "36-ft. in diameter unmanned disk"; "Miss Y", a 30 to 40-ft. (9.1-12.2 m) unmanned saucer.

Also, in neither story did the saucers crash. "Dr. Gee's" landing ships were, "set on automatic float"; "Miss Y" said that they "floated gently to the ground." "Dr. Gee's" saucers had, "Portholes which they can see out, but nobody can see in...half-silvered to stop cosmic rays"; while the Columbus saucer was, "Not like ours... portholes of one way glass not visible from outside." "Two metals unknown to us" and not found "on this planet" became "One or more alloys not found on this planet." Both discs were powered by "magnetic power," and so on.

"Miss Y" may have inadvertently confirmed the source of her story. Despite claiming to have been told that photos and information she had seen were classified with a "top security designation," she told James W. Moseley that the facts she gave him were, "Public knowledge and that she was not breaking security to tell them."

It seems that 15 parallel elements in the 1954 hoax and the 1990 Ohio stories strongly suggest that the Kecksburg "UFO crash" Columbus connection is nothing more than a retelling of this 67 year-old hoax and the 70 year-old granddaddy of American crashed flying saucer tales.

Conclusion

The Kecksburg UFO crash is a folktale with increasingly divergent and bizarre elements allowing many new participants to join in the retelling of the myth.

A proposed "model" for American crashed saucer legends could involve: 1. An event with at least one witness, 2. local news media interest, 3. involvement of UFO enthusiasts or investigators, 4. additional witnesses join the narrative, 5. widespread media excitement, 6. as witness stories are refuted new witness claims appear and 7. ufologist theories of an increasingly bizarre nature are developed, sometimes including adoption of classic crashed saucer legends.

Acknowledgments: The author expresses appreciation to Tim Printy, Robert Sheaffer, James Oberg, Von Del Chamberlain, and Richard P. Champine for their cooperation and work to allow the accurate story of the December 9, 1965, Great Lakes fireball to be told and made available to everyone.

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II

PSYCHOLOGICAL PERSPECTIVES

On Eyewitness Reports of Extraterrestrial Life

Thomas D. Albright

Until I know this sure uncertainty, I'll entertain the offered fallacy.
William Shakespeare, *The Comedy of Errors*

Abstract: A substantial majority of the American population today believes in the existence of extraterrestrial life. Despite the strength and pervasiveness of this belief, direct scientific evidence in support of it is limited. The primary reason for this limited support is that the evidence comes predominantly in the form of testimonial reports from eyewitnesses. Modern scientific understanding of human sensation, perception, and memory has revealed a host of factors that routinely undermine the validity of eyewitness reports under conditions of uncertainty. Recognizing this, the American criminal justice system has implemented new science-based reforms to reduce the likelihood of misidentification in criminal investigation and prosecution. This approach stands as a model for reform of the highly unregulated populist adjudication of eyewitness reports of extraterrestrial life – reform that could bring credible evidence to bear on a topic of great importance in matters of safety, security, and science.

Keywords: Eyewitness identification, Visual perception, Evidence, Uncertainty, Bias, Confidence

Introduction

A recent survey revealed that 65% of the American population is willing to bet on the existence of extraterrestrial life.¹ Given that we have limited facts at hand (it's not like speculation about the weather, or which boxer will win the match) and given that this majority belief is capable of driving policy in a democratic society, one cannot help wonder where this certainty comes from.

Broadly speaking, there are two types of explanation – faith and evidence – which I return to shortly. Before doing so, I offer a few words about why, as a laboratory scientist practiced in the empirical study of perception, cognition, and behavior, I have chosen to write about human testimony on personal experiences with purported extraterrestrials. I have no experience with extraterrestrial life, but I do have considerable experience when it comes to understanding the validity of human perceptual reports. That validity reflects limits imposed by our biological nature, our cognitive and behavioral priorities, and the physical properties of the world we inhabit, which collectively determine our ability to accurately detect, discriminate, interpret, remember, decide upon, and report information that comes to us through our senses. I recognize that these qualifiers – *our biology* and *our physical world* – may be viewed as limiting in this context because the experiences in question have sometimes been said to fall outside the domain of human knowledge.² Heeding that intractable possibility, I remain open minded.

In the following sections, I briefly review the contributions of faith and evidence to beliefs in extraterrestrial life. This is followed by an examination of eyewitness testimonial evidence of the appearance and actions of purported alien life forms, as well as eyewitness reports of unusual lights and sounds, such as those said to arise from alien transport. As I have done previously for eyewitness reports of the sort commonly used in criminal investigation and prosecution,³ I

conclude by addressing the manifold factors that can cause honest well-intentioned observers to make inaccurate statements about their sensory experiences.

FAITH

Many people who believe in extraterrestrial life do so as a matter of faith, if only because they have little evidence at their disposal.⁴ Through an implicit process of folk psychology and armchair reasoning, combined with the fact that being wrong is so far of no consequence, it just seems reasonable, and perhaps exciting, to suppose that we are not alone in the universe. There's also the statistical argument: to deny extraterrestrial life would presume that we are inexplicably unique in a vast universe of matter, a hole-in-one in a hurricane.ⁱ Reinforcing this extraterrestrial belief is an enormous body of fantasy literature and multimedia entertainment, ranging from ancient mythology to tales of modern superheroes and sci-fi star sagas, all of which has promoted a cosmic pluralism. While explicitly fiction, such work facilitates acceptance of creatures different from us – through a form of exposure therapy – who hail from kingdoms in the sky, or galaxies far, far away. Real factual evidence in support of the extraterrestrial hypothesis would also be valuable and undoubtedly interesting, but it isn't necessary if one's conviction is anchored on faith.

There are well-known similarities between faith in the existence of extraterrestrial life and traditional religious faith, which are illuminating because they expose some common characteristics of human belief systems, and they remind us that for some people belief in alien life is no more surprising than, for example, belief in the virgin birth and resurrection of Jesus.⁵ The modern Christian creed known as Creationism provides a vivid illustration. Creationism argues that the profound richness and diversity, beauty, and exquisite functionality and harmony of life on our planet could only have come about as deliberate creations of a divine power. According to this doctrine, alternative explanations, such as evolution by natural selection, suffer from inherent complexity, noisiness, incompleteness, and lack of directed movement toward a human-centric world. In the absence of evidence, and without the guardrails of science and critical reasoning, we default to simplifying explanations sanctioned by self-appointed belief leaders. Never mind that the Creationist canon requires acceptance of things we cannot confirm. As for belief in extraterrestrial life, that acceptance is facilitated by an extensive mythic literature and a missionary community manifested in the form of organized religion. In this world, faith alone prevails, if only because it satisfies a need for explanation.

EVIDENCE: “BUT WHERE IS EVERYBODY?”ⁱⁱ

Evidence-based certainty in the existence of extraterrestrial life is naturally harder to come by and is always at risk of exaggeration and distortion by biases born from faith. Evidence that currently exists falls into two broad categories: indirect and direct.

ⁱ Uniqueness of life on Earth is a common Christian belief, which may account for the fact that people with strong religious faith, such as evangelical Protestants, are less likely to believe in extraterrestrial life [B. Alper B and J. Alvarado (2021) Pew Research Center Survey, <https://www.pewresearch.org/fact-tank/2021/07/28/religious-americans-less-likely-to-believe-intelligent-life-exists-on-other-planets/>] See also J.D. Sarfati (2004) “Bible Leaves no Room for Extraterrestrial Life,” *Science and Theology News*, 4(7), 3-7; C.E. Sagan (1973) *The Cosmic Question: An Extraterrestrial Perspective*, 2nd edition. Cambridge, Massachusetts: Cambridge University Press.

ⁱⁱ Legendary quote from 20th century physicist Enrico Fermi, on the contradiction between the statistical improbability that we are alone in the universe and lack of evidence to support that premise, known today as the Fermi Paradox.

Indirect Evidence: Potential for Extraterrestrial Life

The indirect form of evidence for extraterrestrial life, which is arguably the strongest in terms of empirical rigor, consists of demonstrations that there are extraterrestrial environments possessing conditions that could harbor life as we know it. The existence of earth-like planets – planets with atmospheric and terrestrial conditions like those that gave rise to life on earth – at other locations in the measurable universe has long seemed a compelling possibility, which led to the emergence of the scientific field of astrobiology. The Kepler Space Telescope, which operated from 2009–2018, was used to identify thousands of extrasolar planets – “exoplanets” – using the centuries-old technique of astronomical transit detection.ⁱⁱⁱ A subset of these exoplanets has been deemed earth-like in their suitability for life, based on criteria such as size, orbit, and temperature.^{6,7} An even smaller but highly intriguing subset includes those habitable exoplanets that could have provided a view of Earth transiting the Sun.⁸ These are not simply habitable exoplanets that we can detect, but those where extraterrestrial life forms would have the potential to detect *us*.

This work on habitable exoplanets is complemented by recent discoveries and ongoing search for chemical elements of life on other planets and moons of our own solar system, as exemplified by on-the-ground geochemical explorations of Mars,⁹ and spectroscopic analysis of electromagnetic radiation from distant planetary bodies.¹⁰ It is noteworthy that these demonstrations of the *potential* for extraterrestrial life are all products of systematic investigations carried out by our mainstream scientific enterprise. Potential for life has only a probabilistic relationship to actual life, of course, but these findings have a sound empirical foundation, reinforcing the belief that we are not alone.

Direct Evidence

While largely lacking the scientific bona fides of indirect forms of empirical evidence for extraterrestrial life – if only because it relies upon analysis of infrequent, unexpected, and brief events – direct evidence is by far the most provocative type of support. It’s useful to distinguish two general categories of direct evidence: (i) signals that may be indicative of remote communications from extraterrestrial civilizations, and (ii) real-time observations of proximal animated beings and devices that are inferred to be of extraterrestrial origin.

Signals from the Cosmos

Our universe is replete with visually detectable objects and other electromagnetic events, the properties of which are mostly explainable as products of known natural forces. Against that predictable backdrop, one compelling form of direct evidence for extraterrestrial life consists of statistically improbable visual or radiofrequency signals, which could be interpreted as directed communications, or technosignatures – the flotsam and jetsam of alien civilizations.¹¹ The longstanding Search for Extraterrestrial Intelligence (SETI), made possible by public and privately funded science that employs large radio telescope arrays, is designed to survey the skies for signals potentially arising from sources of extraterrestrial life. Rare and brief bursts of activity in narrow radiofrequency bands – Fast Radio Bursts – arouse interest and encourage belief because natural

ⁱⁱⁱ Distant planets are difficult to detect against the darkness of the universe, but their existence and orbital properties can be inferred from measurable diminutions in brightness as they “transit” across the face of a star. Johannes Kepler predicted, in the 16th century, the solar transits of Mercury and Venus that were telescopically observed in the 17th century. The same principle, with added spectrographic features, was employed by the Kepler Space Telescope Program in order to identify and investigate exoplanets.

explanations are limited.¹² But this forensic practice – however technically and conceptually sophisticated it may be – has yet to point us toward alien civilizations.

Anomalous telescopically viewed objects arouse similar interest. In 2017, for example, an object on a strange interstellar trajectory was discovered tumbling through our solar system. Later named Oumuamua (scout), several unusual properties of the object – movement along an unexpected path with what appeared to be non-gravitational acceleration, non-comet-like surface properties and reflectance, and a cigar-like shape – led prominent astrophysicists to speculate that it could be of alien origin.¹³ The object moved on uneventfully into the distant cosmos and many now argue that it is a natural object, albeit an unlikely one.¹⁴

Encounters at Close Range

The most controversial form of direct evidence for extraterrestrial life – the form that I will focus on in the remainder of this essay – is human eyewitness reports of direct encounters with extraterrestrials and associated sensory phenomena. In an effort to systematize a new science based on such testimony, the astronomer J. Allen Hynek developed in the early 1970s a useful taxonomy of extraterrestrial encounters.¹⁵ Of interest here are two sub-categories of what Hynek termed “Close Encounters.” Close Encounters of the First Kind, refers to “UFO [Unidentified Flying Object] sighting reports that speak of objects or very brilliant lights close to the observers.” Close Encounters of the Third Kind,^{iv} refers to encounters “in which the presence of animated creatures is reported.” Both First and Third kinds of Close Encounters are thus evidenced by eyewitness reports. Close Encounters of the Second Kind, refers to other physical manifestations of witnessed UFOs or animated entities, such as damaged vegetation, which are of interest as independent confirmation (or failure of confirmation) of eyewitness reports.

Close Encounters of the First Kind: Unidentified Flying Objects

The largest category of close encounters involves UFOs, made visible (we presume) by reflected or emitted light, or by occlusion of other visible objects. Throughout much of the 20th century, many of these encounters were initially popularized as anecdotal reports from aviators, who described events such as: “nearly collided with a UFO,”¹⁶ “very unusual flight patterns,”¹⁷ “seven disc-shaped objects hovering in formation around 1500–3000 meters,”¹⁸ “lights that changed color and size,”¹⁹ and “each object had a square shape, consisting of two rectangular arrays of what appeared to be glowing nozzles or thrusters.”²⁰

Among the most widely cited and discussed encounters of this type were captured in a series of videos recorded by United States Navy fighter pilots flying above the Pacific Ocean off the coast of San Diego in 2004, and above the Atlantic Ocean off the Eastern Seaboard in 2014-2015. These videos, which reveal phenomena visible to the pilots using cockpit instrumentation and target tracking technology, drew massive attention mainly because the highlighted targets appeared to exhibit flight behaviors inconsistent with known physical principles or technologies, such as the ability to “remain stationary in winds aloft, move against the wind, maneuver abruptly, or move at considerable speed, without discernable means of propulsion.”²¹

^{iv} Famously also the title of a critically acclaimed 1977 movie about such an encounter, directed by Steven Spielberg and starring Richard Dreyfuss.

In recent years, human eyewitness reports of UFO sightings have gained even greater credibility – both with United States military intelligence and with a public eager for evidence to support their convictions – because the visually observed phenomena have sometimes been simultaneously detected by optical and radiofrequency sensors operated by the United States government. Because all such signal detection devices, including human observers, have some non-zero probability of error, concurrently detected signals greatly increase the likelihood that they have some basis in fact. In a brief unclassified report that was recently released by United States intelligence and defense agencies, those agencies formally acknowledged as much: “Most of the UAP [Unidentified Aerial Phenomena] reported probably do represent physical objects given that a majority of UAP were registered across multiple sensors, to include radar, infrared, electro-optical, weapon seekers, and visual observation.”²¹ United States military intelligence argues that many such objects are likely to have benign explanations, such as airborne clutter (e.g. birds, balloons, and windborne garbage), natural atmospheric events, or technology development programs by the United States government or industry, or by foreign adversaries. Nonetheless, in tones notable for their dispassionate quality, the official United States government report acknowledges that some eyewitness-observed and instrument-confirmed phenomena, such as those suggesting advanced transport technologies, lack explanation in terms we understand and could thus be threats to flight safety and national security.²¹

By the same logic as corroboration by multiple sensors, there are, not surprisingly, cases in which human eyewitness reports of extraterrestrial phenomena are directly contradicted by other sensors. Consider, for example, a widely cited early 20th century event in which a large crowd of people in Portugal reported witnessing the Sun move around the sky in a manner inconsistent with established astronomical patterns and principles. This event, known today as the “Miracle of the Sun,” was the culmination of a series of extraterrestrial sightings (detailed below as a category of “animated entities”). The same Sun is, of course, potentially visible from half the planet at any point in time. There are no other human observations or astronomical tracking device data that corroborate what was said to have been visible in the central Portuguese sky on October 13, 1917.

The strength, breadth, and persistence of belief in the Miracle of the Sun, in spite of clear evidence to the contrary, is testament to the power of faith. It also highlights a disconnect between confidence and accuracy of perception. The witnesses in this case – supported by many disciples to this day – were confident they perceived something that evidently did not happen. This same phenomenon is pervasive in the literature on eyewitness misidentification of criminal suspects.²² Witnesses often confidently assert “Yes, that’s him. I’m certain. I will never forget that face.” But in many such cases, the accused is later exonerated based on objective evidence, such as DNA genotyping.³ All of which leads inevitably to questions about the validity of perception itself,²³ which I address in the next section on eyewitness reports of animated extraterrestrials.

Close Encounters of the Third Kind: Animated Entities

The second important category of direct eyewitness reports of extraterrestrial life consists of encounters with animated beings. The literature on such sightings is abundant and descriptions of appearance are often richly detailed, as in these various eyewitness reports from 1973 (“The Year of the Humanoids”):²⁴

They were tall and were dressed in white outfits like monks’ habits, with tight belts around their waists; on their heads they wore cowls with two points that hung on their shoulders. They seemed

to be looking for something on the ground by the walkway between her [the witness's] house and a nearby school and had little instruments in their hands. They wore wide, blunt shoes... turned at once and moved off quickly with very small fast steps.

A catfish-like creature came out from the top of the lower UFO, holding onto a handrail. It had gray, fish-like skin, a wide mouth, one glowing eye, flipper-like feet and webbing between the legs like a flying squirrel. It had feather-like objects on its back which opened and closed when it moved.

The witness saw a "ghost-like" figure floating about 50 feet [15 m] above the ground at 1000 feet [305 m] distance; it was about 4 feet [120 cm] tall and thin, 'like a person draped in a close-fitting sheet.' It was seen only briefly when she saw a bright light moving about, approaching to within 200 feet [61 m] before going away. It was about 20 feet [6.1 m] in diameter and about 25-30 feet [7.6-9.1 m] off the ground. Later she saw a 'little blue-green thing' about 2 ½ feet [76 cm] tall and with a face with 'spiky things at the tops and sides of the head' look in an open door; it had stumpy arms (she saw no legs), and quickly disappeared from sight.

These descriptions of alien creatures are so far beyond the ken of normal human experience that it's tempting to dismiss them without cause. Before doing so, however, it's important to recognize that there exists a domain of culturally protected eyewitness reports of extraterrestrial activity that possess a similar outlandish quality, but nonetheless underlie the belief systems of hundreds of millions of people. For example:

[The figure] was covered with a white mantle... all embroidered in gold...more brilliant than the sun, shedding rays of light, clear and stronger than a crystal glass filled with the most sparkling water, pierced by the burning rays of the sun... She opened Her hands again as She had done the two previous months. The light reflecting from them seemed to penetrate into the earth, and we saw as if into a sea of fire, and immersed in that fire were devils and souls with human form...The sun had an eccentricity of movement. It was not the scintillation of a celestial body at its highest power. It was rotating upon itself with exceedingly great speed... The sun, still rotating, had unloosened itself from the skies and came hurtling towards the earth.

These are excerpts from verbal eyewitness reports initially offered by children, later "confirmed" by adults, that testify to events experienced in the central Portuguese city of Fátima over the course of several months in 1917.²⁵ There are fascinating and detailed investigative accounts of this story, which offer insights into the human tendency to find truth where it satisfies an agenda.²⁶ In short, the witnesses reported a series of apparitions that consisted of a "lady" in a ball of light resting on top of an oak tree. In the first instance of this "Marian apparition,"^v the lady spoke to the children, asserted that she was "from heaven," made a few vague threats about potential for suffering and God's comfort, and ordered them to "Pray the Rosary every day, to obtain peace for the world, and end the war."²⁵ The lady then floated away into the sky until she disappeared. (The larger

^v Marian apparitions are instances in which a witness reports a distinct percept of what is inferred to be Mary, mother of Jesus, in the witness's visual environment. Hundreds of such apparitions have been reported in the past century. Judgments about authenticity are made by the Catholic Church under the "Norms of the Congregation for Proceeding in Judging Alleged Apparitions and Revelations," which were approved by Pope Paul VI in 1978. These Norms contain several specific "Criteria for Judging, At Least With Probability, The Character of The Presumed Apparitions or Revelations," which lend the process an air of objectivity. For example, such apparitions must not be explainable by natural phenomena. Most applicants are denied.

context for these events was the 1916 German declaration of war against Portugal and subsequent attack on Portuguese troops on the Western Front in the north of France.)

Several other apparitions followed, the last of which was apparently witnessed by a large crowd of people and included the bits about the careening sun (later known as the Miracle of the Sun). Much of this was initially dismissed by the local Catholic parish and townspeople. The child witnesses were admonished for lying and the town feared loss of credibility in the eyes of their countrymen. Ultimately the Catholic Church saw that promotion of the story as a miracle involving the Virgin Mary – “Our Lady of Fátima” – would help further a pro-Catholic political agenda in Portugal. The events were deemed “worthy of belief” – an officially designated miracle – by the diocese in 1930. Two of the original child witnesses were canonized as saints by Pope Francis in 2017, on the 100th anniversary of the initial apparition, which is a compelling institutional declaration of belief in the witnesses’ testimony regarding the Marian apparition.

The larger mythical literature of Christianity is filled with such reports of supernatural events, including a burning bush through which God calls out to Moses, a talking donkey, and several resurrections from the dead, to name but a few – all of which most people today interpret as creative and instructional allegory handed down from centuries past, not things that actually happened. But the Fátima eyewitness reports were made a mere 100 years ago. Aside from the biblical references, the descriptions of Our Lady of Fátima are qualitatively indistinct from contemporary eyewitness reports of extraterrestrial life. Their culturally protected status as true accounts of events that defy our modern understanding of natural laws should give us pause, especially when interpreting the validity of eyewitness reports of extraterrestrials or, indeed, everyday eyewitness reports of criminal activity by people.

Why Do People Report Close Encounters with Extraterrestrials?

My larger thesis here is that modern scientific understanding of sensory and mnemonic factors that are known to influence the validity of eyewitness testimony in criminal cases also provides a foundation for interpreting eyewitness reports of UFOs and animated extraterrestrials. In particular, this science offers an understanding of *why* people report such things, regardless of whether we actually believe that they are true. The “why” question concerns not simply the causal factors that led to the experience, but also the witness’s motivation to report.

Liars, Sociopaths, and Divine Intervention

As for criminal eyewitness testimony, some extraterrestrial reports can be dismissed out of hand simply based on the reporter’s motivation. One such category is deliberate fabrication – a lie or a hoax. Those cases are neither interesting nor are they thought to be frequent in this literature, but are commonly exposed by reporting inconsistencies when they do occur.^{27,vi}

Reflecting his concern about motivation, Hynek drew a finer distinction between genuine witnesses who feel compelled to report an alarming experience, in the way that one might frankly report witnessing a carjacking, versus what he called “contactee” cases.¹⁵ As Hynek defined them, “contactee cases are characterized by a ‘favored’ human intermediary [the eyewitness], an almost always solitary ‘contact man’ who somehow has the special attribute of being able to see UFOs and to communicate with their crew at will.” Such contactees are not liars, per se, but typically

^{vi} In criminal cases the deceptive eyewitness is also subject to substantial legal penalties for perjury.

people who regard themselves as “chosen” and “messianically charged to deliver the message” from extraterrestrial visitors. By placing themselves at the center of controversy, these witnesses are fulfilling a desire for individual relevance and self-meaning, with little regard for critical thinking or the consequences of their actions.^{28,29,30} Hynek believed that such cases could be readily identified by their character, including the fact that many of the witnesses were improbable repeat offenders. He nonetheless lamented the “opprobrium and ridicule” that contactee cases brought upon earnest efforts to scientifically investigate extraterrestrial phenomena.

Marian apparitions are arguably a special type of extraterrestrial contactee cases. The specific testimony and motivations of individuals, such as the child witnesses of Our Lady of Fátima, may be inscrutable. But the stories themselves have been co-opted by the Roman Catholic Church, which following Hynek’s logic is “chosen” and “messianically charged to deliver the message.” Here Hynek’s contactee definition – “a ‘favored’ human intermediary [a priest, in this case] – is disturbingly apt. While the testament of these contactees fulfills in spades a collective desire by the faithful for relevance and meaning, the historical motivations of the Church are enough to dismiss “miracle” apparitions from any serious consideration as extraterrestrial evidence.

What Does it Mean to Be an Extraterrestrial Eyewitness?

What remains after excluding liars, hoaxers, and sociopaths, are instances in which a credible eyewitness is believed to have honestly reported an experience, however remarkable it may be. As for the stunned witness of an armed robbery, Hynek noted that:

The experience comes upon these [extraterrestrial] reporters just as unexpectedly and surprises them... These reporters are in no way ‘special.’ They are not religious fanatics; they are more apt to be policemen, businessmen, schoolteachers, and other respectable citizens. Almost invariably their UFO involvement is a one-time experience.¹⁵

These are the witnesses we need to account for, which brings us back to the remaining “why” question, which concerns the sensory and mnemonic origins of the witnessed experience.

In order to sensibly make use of knowledge gained from the scientific study of criminal eyewitness reports, a few distinctions need to be drawn between the practical features of criminal and extraterrestrial inquiries. On the surface of things, the problem appears the same: Can witness reports of a lived experience provide valid information for action by others? In the criminal case, as practiced under American common law, witnesses are initially asked to provide descriptions of the witnessed people and events. The following contains excerpts from such testimony presented by the witness/victim in a recent criminal case in southern California, which reports unexpected and frightening events similar to many reports of extraterrestrial life:

It was a man, like 20 to 30, like, you know, with a hat on backwards, fitted; whitish shirt, something on it; and darker arms, but he was white, but he was slightly tanned. And he had something on his – facial hair, like on the bottom chin.... And the person’s face came on to the left side of mine and I could feel like the stubble of like a beard or something.... I was like lifted and then like pushed, like lifted or thrown, like lifted and pushed into the bushes by the stop sign... I remember being told to stop screaming and I was threatened.^{vii}

^{vii} This eyewitness testimony resulted in misidentification of an innocent suspect, who was wrongfully convicted by a San Diego jury and sentenced to life in prison [see reference 3).

In practice, a suspect is sought who matches such a description and is compatible with other facts of the case. That suspect is placed in a “lineup,” together with other people (lineup “fillers”) who are known to be innocent but also match the description of the perpetrator. The lineup is presented to a witness, who is asked to identify anyone they recognize as the perpetrator. The purpose of the multi-face lineup configuration is to challenge a witness’s ability to *recognize* a suspect from memory and thus get a sense of how certain they are about an identification.²²

The extraterrestrial case is obviously different in that the witness’s task is necessarily limited to reporting descriptions of the witnessed animated entities and events. Suspects are not sought, if only because the singular nature of the reports and the properties of the observed suggest that they may be difficult to find and apprehend. (And one might argue that being an animated extraterrestrial is, in principle, no more threatening than being a rhinoceros, and surely not a crime.) In the end, testimony consists solely of recalled memories, *not recognition or identification*. As such, there is no independent assessment of certainty and – even when we believe a witness to be credible – there is generally no way to assess the validity of what was reported. (There are some interesting exceptions to the validation problem, as noted above in the discussion of corroboration by multiple sensors.) Viewed in this stark light, it might seem surprising that large segments of the population today believe eyewitness reports of encounters with extraterrestrial life.¹ Knowledge gained from the modern sciences of vision and memory provide insight into this collective belief, and also offer good reasons to question the accuracy of reports from otherwise credible people.

THE CONSTRUCTIVE NATURE OF PERCEPTION

Throughout recorded human history, people have been known to regularly communicate experienced truths to one another using the medium of stories, of which eyewitness testimony is one common form. Most individuals place great trust in the validity of their own sensory experiences – “I know what I saw” – and they readily grant the same confidence in the eyewitness reports of others – “It must be true because she saw it with her own two eyes.” Underlying this social contract is an implicit belief that confidence is correlated with the accuracy of perception, and that contract would be fair and useful if we indeed saw the world the way that it exists. The problem with that assumption, however, is that perception is, by its very nature *and for very good reasons*, not an accurate reproduction of the world around us but rather a construction of what we have predicted it to be.^{23,32,33}

To understand this constructive mandate, consider the physical and biological processes that underlie visual perception: Light reflected off of objects in the world around us is refracted by the crystalline lens in the anterior portion of the eye and projected as a two-dimensional image onto the back surface of the eye – the retina – where luminous energy is converted into neuronal energy. The goal of vision is to infer, from these projected images, the structure and meaning of objects and events in the world around us.³³ This inferential problem is fundamentally constrained, however, by the fact that the retinal projection does not contain, indeed *cannot* contain, all of the information needed to accurately determine the real-world cause of the image.^{viii} To put it bluntly, there is an infinite set of real-world environments that can give rise to any specific retinal image.

^{viii} Vision is a classic “inverse problem” in that there is not sufficient information in the product of the process to uniquely infer the values of the parameters that gave rise to it.

Uncertainty, Bias and Confidence

Some of the informational loss associated with the retinal projection stems simply from compression of a three-dimensional world onto a two-dimensional image. But vision is also plagued by noise from many natural sources, some associated with the structure of the visual environment (e.g., occluding surfaces, glare, shadows), some inherent to the optical and neuronal processes involved (e.g., refractive error or scattering of light in the eye), some reflecting sensory content not relevant to the observer's goals (e.g., a distracting sign or a loud sound). The presence of such noise leads to *uncertainty* about what we're actually looking at, such that any decision we might make or information that we store in memory has a significant likelihood of being wrong.

Perception overcomes this problem of uncertainty by enriching sensations through reference to prior knowledge or experience.^{31,34} From these priors, or "*biases*," the human brain infers the probability distribution of underlying causes and fills in the gaps with what is most likely to be out there. In a noisy world, learned regularities about the properties of our environment routinely tip us off to the presence of obstacles, threats and rewards, which enables us to navigate safely and recognize objects of behavioral import. The visual brain is literally a pattern-finding machine deployed covertly and with immediacy in response to uncertainty, offering probabilistic clues that afford us the perceptual certainty needed for survival.

To illustrate this relationship between uncertainty and bias, consider the abstract visual pattern that appears in Figure 1. Upon viewing this pattern, most people struggle to identify what it represents, what caused it and what it means. Figure 2 provides an additional bit of information that instills a bias in the observer's visual processing system. When returning to Figure 1, the knowledge-based bias introduced by Figure 2 enables the observer to improvise perceptual structure and meaning where there formerly was none.

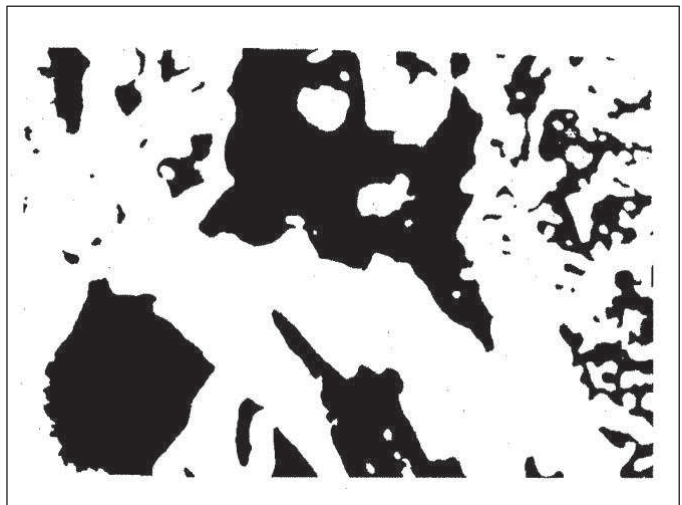


Figure 1: To most observers, this image initially appears as a random pattern with no clear figural interpretation. The perceptual experience elicited by this stimulus will be markedly different after viewing the pattern shown in Figure 2.

Biases born from experience thus play a ubiquitous and essential role in perception. This is hardly a new idea. According to the great 19th century experimental psychologist William James: "Whilst part of what we perceive comes through our senses from the object before us, another part (and it may be the larger part) always comes out of our own head."³¹ The German physicist/physiologist Herman von Helmholtz made a similar assertion: "Sense-perceptions that are derived from experience are just as powerful as those that are derived from present sensations."³² The 21st century version of this concept is captured in Figure 3. Modern neurophysiology has revealed neuronal cells located in a region of the brain known as the visual cortex (Figure 3, bottom panel), the activity of which underlies visual perceptual experience.

These neurons receive inputs from the retina, which convey immediate properties of light from the world around the observer. The same neurons also receive inputs from another region of the brain that is the repository of visual memories, gained from prior experience. These two inputs – sensory and memory – normally collaborate to improvise a coherent perceptual experience.³³

This collaborative process is illustrated conceptually in Figure 3, top panel. Perceptual experience nearly always falls somewhere along a continuum of mixtures of sensation and imagery – an improvisation that facilitates behavioral interaction with the world. The two ends of this continuum, however, are problematic states. At one end, pure sensation is the condition in which a meaningful perceptual interpretation is impossible, generally because of the novelty and ambiguity of the stimulus. An observer's initial viewing of Figure 1 leads to that state. This type of perceptual failure is rare in adult visual experience, but it is debilitating and potentially dangerous when it occurs, because the observer is confronted with a stimulus for which rational decisions and actions are impossible. At the other end of the continuum, pure imagery is the hallucinatory condition in which perceptual experience is detached from all sensory input, which can be entertaining or terrifying, but not at all adaptive. There are thus strong selective pressures for perceptual improvisation.



Figure 2: Most observers will experience a clear and meaningful percept upon viewing this pattern. After achieving this percept, refer back to Figure 1. The percept of that pattern should now be markedly different, with an interpretation that is driven largely by memory of pattern in Figure 2.

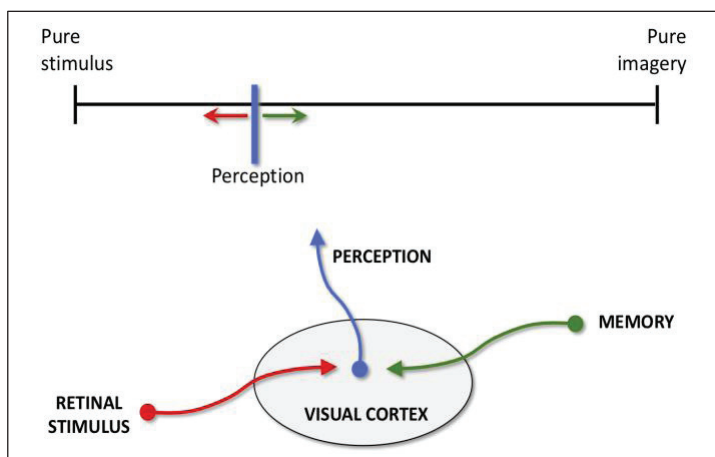


Figure 3: Lower Panel. Neurons in visual cortex that represent perceptual experience receive ascending inputs from the retina and descending inputs from the memory store. *Upper Panel.* Perceptual state at any point in time falls on a continuum between pure stimulus and pure imagery, depending upon the relative contributions of sensory and memory signals.

Though evolution has thus granted us the ability to predict and judge based on prior experience, there is a well-known hazard associated with this process: Our biases are sometimes wrong. The same system that grants certainty of perceptual experience in the face of noise is also capable of introducing content that does not correspond to external reality. This may come about because it has been difficult to acquire reliable information or because previously observed associations between objects and events are artifactual or inappropriate to context. Either way, the result is that perception is inaccurate and we are none the wiser. What we perceive is a common-place

illusion: The coat rack looks like an intruder in the hall, or the shrubbery is mistaken for a police car. Magicians routinely manipulate uncertainty and bias to entertain us with distinct perceptions of things that didn't happen or simply don't exist.

To make matters worse, perceptual inaccuracy born from uncertainty and bias is often associated with misplaced confidence. Studies of criminal cases demonstrate that while confidence may be low at the time of the initial lineup identification, confidence grows with reinforcement for the act of testifying and with receipt of what appears as independent corroborating information – someone else saw something similar. The cause of this confidence–accuracy disparity is captured by Daniel Kahneman's cognitive "illusion of validity".³⁶

Subjective confidence in a judgment is not a reasoned evaluation of the probability that this judgment is correct. Confidence is a feeling, which reflects the coherence of the information and the cognitive ease of processing it. ... Declarations of high confidence mainly tell you that an individual has constructed a coherent story in his mind, not necessarily that the story is true.

What's Wrong with Our System for Reporting Close Encounters

Our Lady of Fátima and the associated Miracle of the Sun are exemplary of the empirically predictable perceptual and cognitive problems that plague honest and well-intentioned eyewitnesses. In this specific case, uncertainty comes from many sources: children have naïve and impressionable minds and are frightened perhaps by atmospheric events or other unusual properties of the natural world; biases are induced by imagined demons and well-rehearsed biblical themes; and confidence is reinforced through the prejudices held by those receiving reports of the witnessed information – all of which helps the witness craft a coherent story integrated with bedrock religious beliefs. Similarly, time and again in *criminal* investigations eyewitnesses express an initial lack of confidence. Conditions of the witnessed events include uncertainty caused by, perhaps, terror and bad lighting. Biases come into play about the physical appearance, character and intent of the perpetrator. And yet witnesses ultimately become resolute because they have inferred corroboration that enables them to tell a coherent story.^{22,36,37,38}

In the end, as with most eyewitness accounts – of human criminals, extraterrestrial visitors and their spacecraft, or Mary, mother of Jesus – we don't really know what happened. In the parlance of forensic science, we have no access to ground truth. As information processing devices, human observers have predictable weaknesses and their perceptual reports and cognitive interpretations are inherently limited by uncertainty, bias and overconfidence.^{39,40} It is only with recent scientific understanding of these factors, together with considerable effort and attention directed to the problem – such as the National Academy of Sciences recommendations regarding the validity of eyewitness evidence,²² subsequent guidance by both the United States Department of Justice⁴¹ and the International Association of Police Chiefs,⁴² and both judicial and legislative reforms^{43,44} – that the handling of criminal eyewitnesses has evolved to help prevent what is effectively contamination of the evidence.⁴⁵

Sadly, none of this science-based reform, or even explicit acknowledgement of sensory and mnemonic factors known to make eyewitness reports unreliable, has found its way into the world of testimony on appearance of extraterrestrial life. Because extraterrestrial sightings do not fall within the purview of the criminal justice system, there are no agreed-upon standards for witness debriefing, witness cloistering to prevent contamination by other sources of information, record

keeping, or application of general principles from the scientific method that might improve data acquisition and interpretation. Moreover, the rapid spread, via the internet, of uncontextualized stories, photographs and videos feeds a fervid base of UFO enthusiasts – rather than an adjudicative body of experts – who issue poorly informed proclamations about the existence of alien life without questioning the measurement conditions under which the evidence was obtained.

Simply put, reports of extraterrestrial sightings are fuel for an unregulated and highly impressionable system that has more in common with Hollywood celebrity sightings than with the legal and scientific standards that modern criminal eyewitness testimony now aspires to.^{43,44} As much as people believe in extraterrestrial life – and surely they will continue to do so – testimonial reports of extraterrestrial sightings will continue to elicit scientific skepticism and, more likely, the opprobrium and ridicule that Hynek bemoaned, unless the community of ufologists recognizes the inherent biological causes for human error and adopts a scientific approach to mitigate them.

The Eyewitness: Expertise of Everyman

Finally, it will likely not escape the reader that the problem with extraterrestrial sightings is a microcosm of the larger problem of disinformation in our 21st century world. The deeper cause of these problems is a sweeping cultural erosion of respect for the value of expertise – the property of a person “regarded or consulted as an authority on account of special skill, training, or knowledge.”⁴⁶ By beaming seemingly unlimited information – unqualified and unsourced though it may be – to everyone’s desktop, the internet has given us all the illusion that we can be experts on pretty much anything. Buoyed by this illusion, we then use that same tool as a megaphone to offer our own “expertise” to anyone who might be curious, through poorly researched, unfiltered and unvetted blogs, tweets, and posts.

Most of this is noise, of course, but the easily-gained power of faux expertise has long been strategized by the advertising industry, frequently used for political gain, and is a nuisance in campaigns for public health. The internet has simply made this disruptive force intractable to the point where we lose sight of the fact that true expertise is hard to come by, and is of priceless value. In the domain of science and technology, for example, true expertise is the state in which someone has acquired a thorough understanding of what things are, how they’ve come to be, how they function and how well they perform, for what purpose, and how they relate to other things. All of which requires a prerequisite understanding of history, relevant scientific concepts, and an appreciation of causality, followed by years of empirical investigation using objective research methods and careful statistical analyses. Without this *actual expertise*, we are lost in a world in which poorly formed opinion masquerades as truth. And because this type of truth is multivarious, we are doomed to argue about it forever.

The eyewitness is an exemplar of unqualified expertise. The witness is, by definition, holder of a specific type of information gained through experience. For that reason, they are viewed as singular experts in what they saw and remember. But because the typical eyewitness has little idea about the operations, aptitudes, and frailties of biological systems for seeing and remembering, they are in no position to judge the validity of their accounts. Many eyewitnesses implicitly recognize this and appropriately qualify their testimony, as did the child witnesses of Marian apparitions in Fátima. But the rest of us, equally naïve about human biology, beseech them for certainty, and for our efforts end up with testaments of miracles (or heinous crimes) proffered by

people who perceived something but in reality have little idea what actually transpired. The solution to this, in both criminal and extraterrestrial cases, is to seek counsel from actual experts who understand how perception and memory work, and how people make decisions based on their experiences.

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Close Encounters of the “Other” Kind: On the Psychology of “Alien Abductions”

Jorge Conesa-Sevilla

The subject is nothing other than what slides in a chain of signifiers, whether he knows which signifier he is the effect of or not.

Jacques M.E. Lacan

Abstract: Even within the vast affiliation area that is meant by “professional psychologists,” diverse perspectives of what constitutes “truth” are found in reference to a willingness to accept, at face value, the phenomenological reality of the “client.” This sympathetic and sometimes necessary approach may at times obscure the complexity of the human mind, its capacity for creative confabulation, on both sides. That is, it is assumed that a number of professional psychologists pursue their degrees and finish their training holding onto preferred biases: anti-science, pro-“spirit,” pro-UFO. Thus, a closer examination of what these interactions might be about, and their role in prolonging a narrative of alien “otherness,” might elucidate these processes from an evidence-based perspective. Not all “abduction” accounts can be explained; however, some may contain enough evidential regularities suggesting explainable mechanisms.

Keywords: False memories, Imagination inflation, “Otherness,” Isolated Sleep Paralysis, Dunning-Kruger Effect.

Introduction

Even when approaching the validity of witness testimony as it pertains to the “UFO phenomenon” from various and scientifically-grounded psychological perspectives (e.g., Sensation and Perception, Cognition, Human Factors, Forensic Psychology, Neurocognition), it would be too simplistic to contextually group extant experiences (all kinds) under one theoretical and empirical umbrella. For example, witnessing unidentified flying objects (UFOs) during daytime and nighttime conditions, claiming to have seen “aliens” out-of-doors, asserting that “aliens” were present in one’s bedroom, and furthermore, claiming that subjects were rendered immobile and taken elsewhere for medical examinations (reported while under hypnosis and also during casual conversation) are all different areas of theoretical and empirical interest.

Making a claim about the veracity of one of the above situations (several people saw, in daylight, unusually-looking reflective spheres and videotaped them), and afterwards, extrapolating these facts to imagine alien visitations and other UFO-preferred lore, is bad inference.

Psychologically important, however, is the fact that the primary dualities found in the UFO and “alien visitation” experiences and conclusions are the significations bad-good, doom-transcendence, damnation-salvation. As in the opening quote from Lacan,¹ much of what humans experience is predicated upon ontological and experiential categories ubiquitous to our species. Signification is a never-ending chain of meaning motifs, central and peripheral, that are necessary for framing our realities (individual and collective).

¹ Lacan, *The Seminar of Jacques Lacan* (Seminar XX: 50).

The specific *pre-* and *postdormital* experiential circumstances of subjects claiming that they were “abducted,” while rendered immobile and taken elsewhere for medical examinations by “aliens,” is particularly interesting in light of confounding and converging variables such as our human predisposition toward nocturnal-affect vulnerability,^{2,3} the likelihood of confusing dynamic and varying consciousness states during sleep,⁴ and the incidence, in a percentage of the human population, of Isolated Sleep Paralysis (ISP), to name just a few factors, and obligates serious researchers to consider plausible and testable hypotheses.⁵

Whether part of clinical or empirical work, little is gained, and some harm could be done, by accepting, unqualified, the subjective report of an obviously frightened individual, that extraterrestrials or government agents are the primary cause of a set of experiences that might be otherwise explained. An Occam’s razor approach to sifting through explanations, although not fool-proof, might be a better protocol for evaluating these uncanny experiences.

Isolated Sleep Paralysis (ISP) and False Memories

While conducting long-term longitudinal studies on Isolated Sleep Paralysis (ISP) as well as hundreds of subject interviews, the author collected a wide range of first-hand descriptions of what it is to experience a variety of dream or dream-like experiences and their effects on psychological well-being.^{6,7}

The uncanny experience of the feeling of a presence (FOP), for example, a common and concomitant report to ISP events, is of interest as an explanation for stories of ghosts and “aliens,” particularly when dream material might continue in some form minutes after waking up.⁸ Additionally, one of the canonical experiences reported by so-called “alien abductees” include elements of body paralysis and levitation, being deposited on cold, metal tables, seeing creatures, “aliens,” that are of various colors and sizes (tall, short, green, blue, gray), bright lights, and both pleasurable and painful medical examinations.

That the above experiences, taken as a whole or in isolation, depict distorted perspectives of what children or adults might experience in actual human medical rooms, deserves closer attention, particularly when other known conditions and experiences such as ISP and FOP have been scientifically studied. Interestingly, when ISP and FOP events are triggered under laboratory conditions, no ghosts or “aliens” are seen.

Admittedly, even when well-intentioned professionals but non-experts attempt to define sleep paralysis in reference to other topics, some factual errors are committed as in this example:

² Boivin *et al*, “Complex Interaction of the Sleep-wake Cycle and Circadian Phase Modulates Mood in Healthy Subjects,” pp. 145–152.

³ Wirz-Justice and Benedetti, “Perspectives in Affective Disorders: Clocks and Sleep,” pp. 346–365.

⁴ Conesa-Sevilla, *Wrestling with Ghosts*.

⁵ Brugger, Regard and Landis, “Unilaterally Felt “Presences”: The Neuropsychiatry of One’s Invisible Doppelgänger,” pp. 114–122.

⁶ Conesa-Sevilla, “Geomagnetic, Cross-cultural and Occupational Faces of Sleep Paralysis: An Ecological Perspective,” pp. 105–111.

⁷ Conesa-Sevilla, “Isolated Sleep Paralysis and Lucid Dreaming: Ten-year Longitudinal Case Study and Related Dream Frequencies, Types, and Categories,” pp. 132–143.

⁸ Conesa-Sevilla, “Infra-dreaming and Dream-awake States,” pp. 26–29.

*Sleep paralysis is a common non-pathological sleep disorder. It occurs in the intermediary stage between sleep and full consciousness and can last anywhere from a few seconds up to several minutes. It is often characterized by symptoms such as auditory and visual hallucinations, immobility, a sense of presence, fear, a feeling of pressure on the chest, or the feeling of floating.*⁹

To reiterate and clarify, a distinction must be made between Isolated Sleep Paralysis, occurring in the neuro-typical population without other symptoms and sleep paralysis occurring in narcolepsy. Their phrase (above), “*the intermediary stage between sleep and full consciousness*” is a non-technical description lacking medical precision which might give rise to further ambiguity and misunderstandings. Muscle atonia—paralysis—is a normal neurological consequence of entering rapid eye movement sleep (R.E.M.). In fact, every human (mammals) who falls asleep and enters REM sleep is “paralyzed.” The puzzle is why a small percentage of the human population, from time to time, and under certain conditions, remains “self-aware” and thus witness one step in a sequence of cascading events beginning with the random firing of cells in the pontine brainstem.

The above situations (open-ended imagination and errors in describing sleep proper) may get even more confusing when other so-called “experts” come to the assistance of “abductees,” employing a variety of questionable or unreliable methodologies, like hypnosis, which almost guarantees that one but no other narrative will prevail.¹⁰

The work of American memory researcher Elizabeth Loftus and her collaborators has been instrumental in providing a parallel empirical course from which to examine claims of “alien abduction.”^{11,12} Her play-by-play deconstructive analysis of the questionable work of individuals like Budd Hopkins and John Mack is a great example of the scientific rigor and critical thinking approaches that one should expect from any person who calls her/himself a mental health professional. From misperception, to misinterpretation, to cobbling together “tall tales,” the myth-making capabilities of the human mind cannot be underestimated.¹³

Considering the probability of singly determined and/or co-occurring factors (our human primate evolutionary propensity to feel anxious and insecure at nighttime, sleep deprivation for any number of reasons, anxiety, a consistent number of individuals who occasionally experience ISP, FOPs, the actual adulteration and modification of memories afterwards, and the possibility that some individuals have very vivid imaginations), an evidence-based, critical thinking approach to the “alien abduction” phenomenon is necessary, if for no other reason than to expand the work of forensic psychology when it comes to empirical processes related to witness testimony.

Evaluating statements about the veracity of something as disturbing and anxiety-producing as an “alien abduction,” where perceived injury is also reported and while naming “suspects,” requires the most sophisticated and up-to-date tools used during forensic discovery and the professional

⁹ Latorre and Vellisca, 2021, p. 1.

¹⁰ Dilani, “Kidnapped by UFOs? The True Story of Alien Abductions,” PBS/NOVA documentary.

¹¹ Loftus and Hoffman, “Misinformation and Memory: The Creation of Memory,” pp. 100–104.

¹² Loftus and Pickrell, “The Formation of False Memories,” pp. 720–725.

¹³ Conesa-Sevilla, “Medieval Thinking (MT) in the 21st Century: Crystal Balls, Black Swans, and Darwin’s Finches in the Time of Corona.”

acumen to see these investigations through. Kidnapping, physical injury, and sexual violence are, after all, crimes. Why would an artist (e.g., Elliot Budd Hopkins)¹⁴ without forensic or psychological training be called to investigate these “crimes” unless his work took place in the context of an ongoing criminal investigation and under the guidance of forensic experts?

States of Consciousness and the “Alien Abduction” Experience

In the literature about so-called “alien abductions,” one rarely (if at all) reads a complete presentation about how the richness of conscious experience (while awake or asleep) might contribute to the misperceiving and/or misreporting of uncanny phenomena.

Even after five decades of thorough sleep research does one read pointed accounts that would explain “uncanny experiences” of the “other kind.” That is, and common to other noetic gulfs between current and up-to-date science and popular descriptions of various phenomena, the naive public is often carried away by mostly impressionistic and emotion-laden “explanations.”

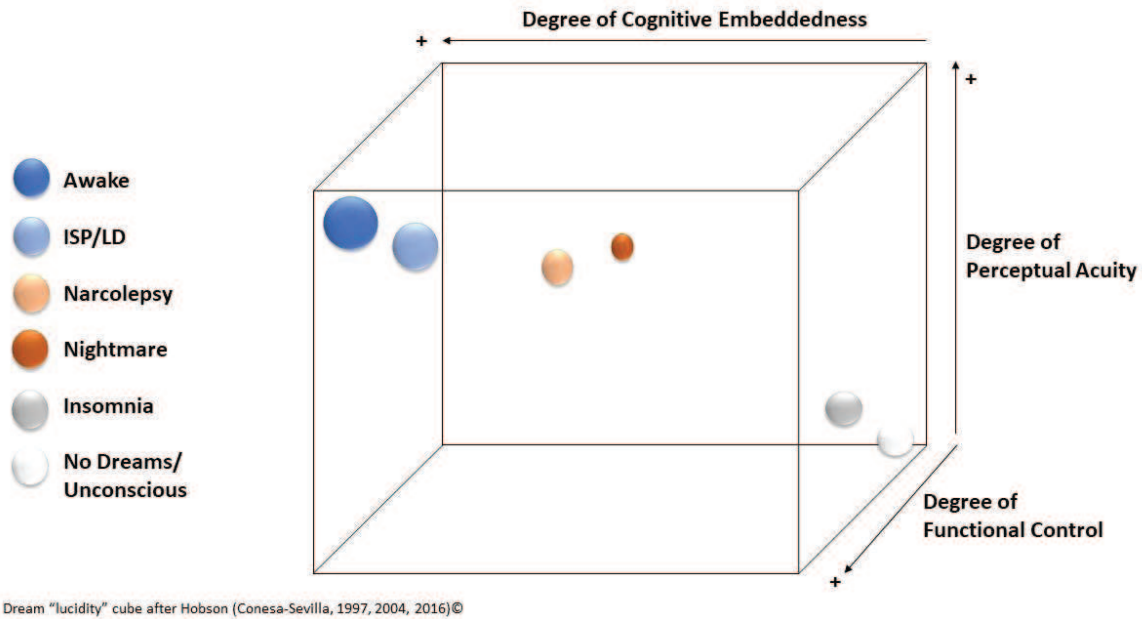
As Figure 1 shows, the many experiences normally oversimplified as “sleep” can be described in reference to how these may “feel like” being awake, and thus, under this assumption, potentially misreported as uncanny phenomena that feels objectively “real” to subjects. In the context of archival sleep research conducted at the Inselspital Universitätsspital, in Bern, Switzerland (2004-2006), the author employed a 103-item questionnaire in order to better ascertain the many dimensions of consciousness states while under “sleep.” Recollections of dream material and events were evaluated according to three factorial axes: 1) the degree to which a dream experience felt like “the real world” of being awake (*cognitive embeddedness*); 2) the degree to which perceptual experience was exact, similar to (or not at all like) everyday awake consciousness (*perceptual acuity*); and 3) the degree to which subjects were able to function in their “dream realities” as they normally would in everyday life (*functional control*). For example, if a subject reported that “this did not feel like a dream at all” because they interacted within an experiential set as if they were awake, saw vivid colors, heard people talk, walked, flew, or were paralyzed, then they would score high on this particular questionnaire. A high score correlated with vivid dreams, lucid dreaming, and/or ISP, FOPs and so-called out-of-the-body experiences.

One can, as easily, draw a similar “consciousness cube” for describing the phenomenology of “being awake” and perhaps then one can appreciate that our “sense of reality” is complex and ever-changing--very dynamic. Given the ease with which any person could be persuaded to accept a “false memory” (previous section) or delude him/herself into thinking that aliens truly kidnapped him/her, and assert these “facts” with a high degree of confidence (see next section), then it is clear that much in-depth psychological forensics must take place before we accept these reports at face value.

Equally, because these events seem very real to these subjects, one must, again, also have a degree of compassion and sympathize with their real-felt emotions. However, to take a person in this state and confuse him/her with improbable stories about alien abduction seems misguided at best and cruel or exploitative at worst.

¹⁴ Dilani, “Kidnapped by UFOs? The True Story of Alien Abductions,” PBS/NOVA documentary.

Figure 1: Dream Lucidity/Consciousness ©



Imagination Inflation, the Dunning-Kruger Effect, and Pseudo-Profound Bullshit

To reiterate the introduction, reports that belong to UFO lore are of two kinds: public and private.¹⁵ The former includes situations, for example, where several people see, in daylight, unusually-looking reflective spheres and videotape them. Weather scientists, oculists, and video technology experts may be consulted in order to verify the authenticity of these public claims. The so-called "alien abduction" experience is private. Thus, private and uncanny experiences occurring close to or during bedtime in private quarters are claims that are difficult if not impossible to verify, and their evidential merit must come under more rigorous examination.

Private experiences, in the words of Tedeschi¹⁶ refer to:

...mental events in one person that are inherently unobservable by another person. The actor is viewed as having a choice of whether or not to reveal these private events to others, that is, to make them public. A related question is whether there are cognitive events that cannot be "observed" by the person within whom they occur (Nisbett & Wilson, 1977). Psychoanalysts have long held that most of mental life is unconscious (e.g., Freud, 1938).

The last sentence of his quote alludes to cognitive biases and epistemological propensities that may elude many observers—an inner subjectivity that requires highly-trained mental professionals to untangle and then assess. To reiterate, the ease with which any of us may reconstruct an event falsely, naturally, and without the intent to deceive, is evident in the work of Elizabeth Loftus and other researchers.¹⁷

¹⁵ Tedeschi, "Private and Public Experiences and the Self," 1986, p. 2.

¹⁶ Ibid, "Private and Public Experiences and the Self."

¹⁷ See Garry *et al*, "Imagination Inflation: Imagining a Childhood Event Inflates Confidence that it Occurred," pp. 208–214; Loftus, "Imagining the Past," pp. 584–587; Strange and Hayne, "Creating False Memories for Events that

In particular, the process of imagination inflation^{14, 15} and a related construct, the Dunning-Kruger Effect¹⁸ might, alone or in tandem, explain why experiencers of so-called “alien abductions” and their enablers fall prey to a sense of overconfidence in the absence of the necessary training required to evaluate these experiences (their own knowledge or lack thereof). To simplify both constructs, *their very sense of overconfidence makes them blind to their inability to judge their own incompetence.*¹⁸

Additionally, there is a persistent but false folk psychological belief that only the subject is qualified to gaze accurately by leaps of faith and/or intuition into the inner workings of his/his own psychology. A person who is justly terrified by these assaults, but wants nothing to do with a critical-thinking-oriented psychologist, may end up embracing the most cockamamie notion that could explain his/her experiences. Under these circumstances, they may fall victim to pseudo-profound/scientific “bullshit.”¹⁹ In addition to the individual differences mentioned in section one, there might be psychological propensities in certain individuals to prefer unorthodox explanations or be consistently credulous across several other domains.²⁰

To add to the preceding conditions, one must include any pseudo-scientific idea or proposal that is neither recognized by most experts in a given field nor adheres to standard empirical protocols. For example, to the extent that the practice of hypnosis, by its own methodology and nature, requires a willingness to take on suggestions, then it may not be the appropriate method with which to examine “alien abduction” claims. Hypnotic techniques and inductions may be warranted under highly protocolized and supervised conditions but wantonly inadequate and even harmful under unrestricted uses.

Related to the above, it is also assumed that a number of professional psychologists pursue their degrees and finish their training while holding onto preferred biases: anti-science, pro-“spirit,” pro-UFO. Thus, a closer examination of their professional motivations and their role in prolonging these uncanny narratives might not only elucidate the enabling process of the “abduction” narrative, but may even be helpful in understanding how professional credentialing and recertification allows, in some states and countries, the continuance of certain practitioners to exert their misguided guidance. This is not to say, in all fairness, that most psychologists would be inclined to treat an “alien abduction” narrative as objectively real.

To be fair and compassionate, one must always understand that the strangeness and intensity of the so-called “alien abductions” may easily drive experiencers to seek out equally uncanny explanations when the answer might be, if not simpler, at least within the purview of neuropsychiatry and neurobiology—sleep science.

Occurred Before Versus After the Offset of Childhood Amnesia,” pp. 475–484; and Newcombe *et al.*, “Remembering Early Childhood: How Much, How, and Why (or Why Not),” pp. 55–58.

¹⁸ Kruger and Dunning, “Unskilled and Unaware of It: How Difficulties in Recognizing One’s Own Incompetence Lead to Inflated Self-assessments,” pp. 1121–34.

¹⁹ See Pennycook *et al.*, “On the Reception and Detection of Pseudo-profound Bullshit,” pp. 549–563; Evans and Mlakar, “Individual Differences in Receptivity to Scientific Bullshit,” pp. 401–412; and Čavojová and Jurkovič, “Expanding the Bullshit Research Out of Pseudo-transcendental Domain,” online link.

²⁰ Evans and Mlakar, “Individual Differences in Receptivity to Scientific Bullshit,” pp. 401–412.

Conclusion

Human psychology is complex but not, ultimately, recondite. Science-based discoveries occurring in the last sixty years have shown and suggest that even though human psychology is far more complex than the ancients ever imagined, nevertheless its underlying computational organics are open to study and control, and more so every decade. No amount of philosophical conjecture and try-as-you-go impromptu “techniques” can replace exacting scientific methodologies. That does not mean, on the other hand, that anything-goes “science” or the easy juxtaposition of a known construct in one area (e.g., quantum entanglement) can be readily adopted in another (e.g., consciousness) in order to explain a third and absurd idea (e.g., spiritual evolution).

In the introduction it was argued that primary dualities found in the UFO and “alien visitation” experiences and interpretations within, revisit universal categories and tropes of bad-good, doom-transcendence, damnation-salvation—that this is psychologically important. To invoke Lacan once more, the phenomenological subject is a pawn of the dynamics of “otherness,” his own, and those of others. This vast dynamic semiotic space is constantly shifting.

Much of the UFO lore directly addresses these universal categories or alludes to them. An “alien abductee” may come to believe that no matter how disagreeable her/his experiences might be, she/he is at the center of something grand. As in the case of many mythological conceptions, a virgin is taken by a powerful god in order to bear his demi-god child. That this violation was against her will pales in comparison with being chosen for such a momentous and mythical occasion. Godlike characters, enacting much of human psychology, equally signify “doom” and “transcendence,” “damnation,” and “salvation.” The delusion enabler him/herself may willingly collude in the recurring fantasy: Gods-meet-humans under many guises and across time, a Heaven’s Gate tragedy ready to happen.²¹

Underfoot, however, a discoverable synaptic malfunction, a missed sleep sequence, and a representation-prone brain confabulate and collate an uncanny narrative that satisfies cultural trends or ideas about extraterrestrials. That any of these explanations, and more, are not first and duly investigated suggests that something about the idea of “the celestial visitation” is both alluring and enduring as part of our collective mythology. And once free to roam in our imaginations any combination of these narratives is as good as any: shamans and UFOs, gremlins and malfunctioning airplanes, Jesus and the little green men, or reptilian civilizations presently and concurrently existing in a hollow Earth.

The average citizen, one dares to venture, lives unaware that his/her perception of the color “red” is an invention, and that in fact, all his/her experiences are brain representations, a virtual reality. That the naïve and uneducated experiencer is not privy to the wet mechanics of her/his computational machine, the human brain, is understandable. That well-meaning but inept enablers add fodder to delusions is problematic, but still understandable, if they are as naïve as their own “clients.” That manipulative professionals, knowingly, take advantage of naïve folks in order to be under an otherwise elusive spotlight is exploitative and could be considered criminal.

²¹ “Heaven’s Gate: A Timeline,” online link.

Given the scientific fact that human brains represent, infer, and make sense of the world as best they can, it is prudent to seek answers within the dynamics of cerebral circuits rather than far away and yonder in the stars.

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Dissociation and Alien Abduction Allegation

Olivier Dodier

Abstract: In this chapter, I propose a description of the links between dissociation and alien abduction allegation. To do so, I first describe the controversies surrounding the etiology of dissociation to conclude that the sociocognitive model, which acknowledges social, cognitive, and cultural variables as factors in the development of dissociation, probably best explains the relationship between the two central concepts of the chapter. For example, it appears that the common correlates of dissociation and alien abduction claims are fantasy proneness and sleep disturbances, particularly sleep paralysis, which is often accompanied by visual hallucinations that can be interpreted as the presence of aliens. In conclusion, the link between dissociation and alien abduction allegation appears to be indirect, but a measure of dissociation in people reporting such experiences could serve as a good starting point to investigate the genuineness of the claims.

Keywords: Alien abduction allegation, Dissociation, False memory, Fantasy proneness, Sleep paralysis

Introduction

According to NASA, our galaxy, the Milky Way, contains at least 100 billion stars. The observable universe is estimated to contain at least 100 billion galaxies. The probability that in the universe, or even in the Milky Way, a solar system other than our own hosts a planet that could support life is highly credible. However, it seems less credible that these hypothetical alien life forms have arrived on Earth without our knowledge. Even further, there is no credible evidence of such an invasion that we know of. Thus, it seems even less credible that people have been abducted by aliens; insofar as to prove that they were abducted by aliens, one would already have to prove that the aliens reached planet Earth, which also requires evidence of the existence of aliens. The more unproven phenomena there are between an assertion and the phenomenon that is the subject of the assertion, the less credible the assertion is.

One piece of evidence may be testimony. The fact is that there are people who claim to have been abducted by aliens. Is this level of evidence sufficient to conclude that (i) aliens exist, (ii) they have come to Earth, and (iii) they are abducting people from Earth? Certainly not. However, what is characteristic of this kind of testimony is that the people sometimes seem so sure of themselves that it is credible that they are intimately convinced of this. In fact, it seems that many people report alien abductions. Work conducted in the U.S. in the 1990s has documented tens of thousands of reports of such experiences (see Appelle et al., 2014). However, the popularity of an apparent phenomenon does not make it true (i.e., *argumentum ad populum*). It is then necessary to look for the most parsimonious explanation in the light of fundamental epistemological principles related to the development of scientific theories.

Of course, given the lack of evidence for the very existence of aliens, we might consider that the most efficient and simplest explanation would be lies or deception. The problem with this explanation is that it is based on the premise that such experiences are necessarily false, and that they can only be the product of a desire to deceive others, without even knowing what the purpose would be. Of course, some people may make up such stories. But if, as mentioned earlier, there

are tens of thousands, if not more, allegations of alien abduction, it is reasonable to look for parsimonious alternative explanations. It is even more necessary to take these claims seriously because people who claim to have been abducted by aliens appear to have similar psychophysiological responses to the abduction event as highly traumatized people (McNally et al., 2004). This result suggests that these individuals are truthful and genuinely convinced that they have been abducted by aliens. Among the explanations are those of psychological phenomena and psychopathological disorders. Among the phenomena that can induce the impression of having been abducted by aliens, or even having a specific and precise memory of it, we can mention, for example, false memories, but also broader psychological conditions such as dissociation, which is the subject of interest in this chapter.

Dissociation is the subject of much debate in the literature as to its etiology, and these debates are of importance to the topic. Indeed, the sociocognitive etiological model of dissociation points to numerous correlates that can be linked more or less directly to experiences such as alien abduction. For this reason, the sociocognitive model of dissociation will be described, and its links with fantasy proneness, false memory and unusual sleep experiences will be reviewed in detail, since these are the most relevant correlates for connecting dissociation to alien abduction allegations.

What is Dissociation?

Dissociation is a rather paradoxical psychological concept. Although complicated to define on a scientific and clinical level, and despite the number of points of ignorance about it, it is the subject of much popularity in the media and is often presented in a misleading way in movies such as “Fight Club” or, more recently, “Split.” The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013) describes dissociation as a “disruption and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control and behavior” (p. 291). More precisely, it suggests that dissociation may occur in “every area of psychological functioning” (p. 291). As with many psychological phenomena, dissociation can affect anyone, but can occur to an extent that makes it pathological, although the distinction between pathological and non-pathological dissociation is not always easy to make (e.g., Giesbrecht et al., 2008). In addition, dissociation can be expressed in many different ways: sudden loss of attention and failure to integrate information into memory, fantasizing, daydreaming, being absorbed in content (e.g., a movie). In its pathological dimension, the DSM-5 indicates that dissociation can lead to amnesia (i.e., dissociative amnesia), the development of several identities (i.e., dissociative identity disorder), or the feeling of being in an unreal environment, outside one’s own body and thoughts and actions (i.e., depersonalization/derealization disorder). The prevalence of these disorders is relatively high, since, for example, the DSM-5 states that 1.8% of the population has suffered from dissociative amnesia, 1.5% from dissociative identity disorder, and about 2% from depersonalization/derealization (American Psychiatric Association, 2013). Thus, these disorders probably affect several million people, making dissociation and its disorders a public health issue.

One of the characteristics of dissociation is that it can also occur as a symptom of other disorders. For example, the DSM-5 (American Psychiatric Association, 2013) lists dissociative amnesia as a potential symptom of post-traumatic stress disorder. The manual also lists depersonalization/derealization as a symptom of panic disorder. What will then distinguish dissociative features as symptoms or markers of a dissociative disorder will be the presence or

absence of other symptoms that are either characteristic of another disorder or characteristic of a dissociative disorder. In any case, dissociation in its pathological dimension is extremely complex and the cause (or consequence) of many comorbidities, making the need for differential diagnoses greater. Recent work has even highlighted the transdiagnostic nature of dissociation in that it may be a risk factor for all forms of psychopathology (Ellickson-Larew et al., 2020). Another supporting datum is that the prevalence of dissociation in clinical populations (i.e., populations diagnosed with a psychopathological disorder) is much higher than that in the general population—i.e., ranging from 12 to 35% in clinical populations (depending on the study, e.g., Lipsanen et al., 2004; Ross et al., 2002), versus 4% in the general population (Lipsanen et al., 2004).

To sum up, dissociation is a major point in the psychological literature that is quite difficult to define: it may refer to everyday and totally benign phenomena, it may be symptomatic of psychopathological disorders, but it may also constitute a psychopathological disorder in itself. The complexity then lies in the identification of potential pathological forms and in the correct interpretation of the symptoms.

The controversy of the Etiology of Dissociation

Historically, there have been two opposing etiological models in the literature to explain how dissociation develops, as well as to account for the tendency of some people to experience more or less dissociative experiences. As we shall see, it seems that today a reconciliation of the models is possible, and the purpose of this section is not to take sides with either model. However, we will see later that one of the two models seems better suited to explain how dissociative experiences can lead individuals to consider as credible memories of being abducted by aliens.

The first model is the Trauma Model (TM) of dissociation. This model suggests a causal link between aversive and traumatic experiences in childhood and a high propensity to have dissociative experiences in later life and even to develop dissociative disorders, such as dissociative amnesia or dissociative identity disorder (e.g., Brand et al., 2018; Dalenberg et al., 2012). This model is based on the finding in a 2012 meta-analysis (Dalenberg et al., 2012) that a relationship is often found between scales measuring dissociation (e.g., Dissociative Experience Scale; Bernstein & Putnam, 1986) and childhood trauma or traumatic treatments. According to proponents of the TM, this link between trauma and dissociation is sufficiently strong that it has been found in studies of both clinical populations (i.e., diagnosed with a dissociative disorder) and the general population (i.e., not diagnosed with such a disorder but who may express varying degrees of dissociation). This model is therefore historical insofar as it is in line with the conception of Pierre Janet (e.g., 1889), who was the first author to emphasize dissociation, and the role of trauma in its etiology.

The way in which trauma leads to dissociation is described in a highly cited article by van der Kolk and Fisher (1995). The authors suggest that dissociation results from a compartmentalization of adverse experiences. These experiences would not be integrated into memory as whole and complete units, but as dissociated fragments of sensory perceptions and affective states. In other words, during the traumatic event, the objective experience (e.g., the course of the event) would be integrated into memory separately from the affective states and sensory elements felt during the event, which would be integrated in a separate level of consciousness, thus leading to dissociative states known as “peritraumatic” (i.e., during the traumatic event, e.g., depersonalization) and

“post-traumatic” (i.e., after the traumatic event). In summary, dissociation has three levels according to van der Kolk and Fisher: memory fragmentation, peritraumatic dissociation, and post-traumatic dissociation/dissociative disorders. Note, however, that this model has been criticized by proponents of the TM, who suggest other mechanisms for the links between trauma and personality dissociation (e.g., Nijenhuis & Van der Hart, 2011). However, we will not elaborate on this aspect, as the TM is not the most relevant model to explain the links between dissociation and alien abduction allegations.

The second model is the sociocognitive model of dissociation (SCM). This is an open model suggesting the interaction of social and cognitive variables to explain the development of dissociative experiences and dissociative disorders. Typically, the variables most studied are fantasy proneness, cognitive failure, and suggestibility, as well as the iatrogenic nature of some therapeutic techniques (see, e.g., Giesbrecht et al., 2008; Lynn et al., 2014). This model is based on the fact that correlations between trauma and dissociation are rather weak and/or suggest an indirect link mediated by other variables such as emotional dysregulation, deficit in meta-cognition or sleep disorders (e.g., Dodier et al., in press; Lynn et al., 2014). Conversely, many studies have shown remarkable correlational associations between dissociation and various measures of cognitive failure (Giesbrecht et al., 2008), fantasy proneness (Merckelbach et al., in press), or suggestibility (e.g., Lynn et al., 2014). Thus, the etiology of dissociation would be individual factors that promote the integration of suggestions leading to the development of dissociative experiences or dissociative symptoms. More recently, a study also found that trauma experience, dissociation, and low cognitive ability were associated with a greater tendency to form spontaneous (i.e., not induced by a third party) false memories, which is consistent with the SCM (Fatemeh Sajjadi et al., 2021).

For these reasons, some authors have considered that dissociative identity disorder, for example, could sometimes be an iatrogenic effect of several psychotherapeutic techniques (e.g., Lilienfeld, 2007), or misinterpretations of behavioral state changes due to hyperassociativity, that is, the tendency to make associations between various elements of the environment and cognitions and/or emotional states that are not semantically or emotionally related (or only weakly so), which may lead observers to believe that a sudden set shift in an individual is characteristic of an identity change (Lynn et al., 2019).

In response to these two models, several landmark papers have been published by SCM proponents calling for the development of an integrative/transtheoretical model aimed at reconciling approaches that do not appear to be so contradictory to each other (e.g., Dodier et al., in press; Lynn et al., 2019). Indeed, it seems that proponents of the SCM do not reject the etiological role of trauma in dissociation, but suggest that it is not specific to dissociation in that its role is indirect and, as stated earlier, mediated by other variables. Thus, the experience of trauma would provoke the presence of variables such as impaired self-regulation, sleep disturbances, or emotional disorders, which in turn would facilitate the onset of dissociative experiences and their correlates (e.g., fantasy proneness, false memory).

Because the SCM links dissociation with sleep disturbances, fantasy proneness, and false memory, it seems that this model is particularly well suited to explaining how dissociative states can be related to beliefs of having been abducted by aliens. In the next sections, we will then attempt to

link the information described above and explore credible connections between dissociation and alien abduction allegations.

Dissociation and Sleep Disturbances

It seems trivial to say that sleep quality is a critical factor of health quality. In 2004, experts in sleep medicine met in Germany under the guidance of the World Health Organization to establish the consensus on the effects of sleep on health (World Health Organization, 2004). Their conclusions were very clear: the negative consequences are to be found in the physiological (e.g., diabetes, obesity), neurological (e.g., high pain sensitivity), cognitive (e.g., reduced memory, reduced reaction time) and behavioral (e.g., mood changes, nervousness, sleepiness, and drastic mood changes, mood disorders) areas. Since we spend about a third of our lives sleeping, it is consistent that sleep disturbances lead to several forms of dysfunction, ranging from occasional discomfort to serious difficulties in the social, emotional, and behavioral life of individuals. Over the past twenty years, work has begun to place the emphasis on the links between sleep disturbances and dissociation. This work, which we will describe next, leads to such consensual results that sleep disturbances is a strong correlate of dissociation.

In 2012, van der Kloet and colleagues reviewed 23 studies conducted with clinical and non-clinical samples and found that in all cases but one, correlation measures between sleep disturbances and dissociation ranged from $r = .30$ to $r = .55$, suggesting a high correlation. A year later, a team led again by van der Kloet (van der Kloet et al., 2013) found a correlation of $r = .40$ between unusual sleep experiences such as sleep paralysis or narcoleptic symptoms and the expression of dissociative symptoms. On a psychopathological level, patients with DID generally report more sleep disturbances and poorer sleep quality than healthy participants (van Heugten-van der Kloet et al., 2014). More generally, as noted at the beginning of this section, sleep disorders are associated with a wide variety of psychological disorders. However, it appears that the association with dissociation is particularly strong (Watson et al., 2015), perhaps even more so than with other psychological conditions/disorders. Finally, a key feature of the links between sleep disturbance and dissociation is REM sleep. Indeed, longer periods of REM sleep have been shown to predict dissociation (van Heugten-van der Kloet et al., 2014). Yet it is during this phase that remembered dreams usually occur, as well as sleep paralysis, which, as we will see, seems to be very strongly connected to claims of alien abduction.

The question now is how sleep disturbances can lead to dissociative states. Dissociation and sleep disturbances have, in fact, common correlates. For example, it appears that DID patients report sleep disturbances, but also fantasy proneness and cognitive failures (van Heugten-van der Kloet et al., 2014). All these states are in fact inter-connected. Sleep disturbances can lead to daydreaming and sleepiness states (Soffer-Dudek et al., 2017) and fantasy proneness (van Heugten-van der Kloet et al., 2014). Yet these states are also associated with dissociation (Giesbrecht et al., 2008; Lynn et al., 2014). We can then consider that sleep disturbances can generate states of daydreaming, fantasy, or absorption, which in turn could be precursors of dissociation.

Linking Dissociation to Alien Abduction Allegations

As just briefly described, dissociation is strongly associated with sleep disturbances such as sleep paralysis, as well as with daydreaming and fantasy-prone states. It also appears that both

dissociation (Fatemeh Sajjadi et al., 2021) and fantasy tendency (Geraerts et al., 2005) or sleep disturbance (Frenda et al., 2014) are associated with the production of false memories.

Sleep paralysis is a sleep disorder that results from the intrusion of muscle atony (i.e., decreased muscle tone via inhibition of spinal motor neurons to prevent motor action during REM sleep) during the sleep or awakening phase. This paradoxical state of being awake and aware, but temporarily unable to activate any motor behavior is sometimes accompanied by visual and auditory hallucinations, leading people to believe that an entity is present in the room with them. The fact is that it is quite conceivable that people undergoing sleep paralysis with visual hallucination interpret the presence of this entity as the presence of an alien; this interpretation can be personal as well as proposed by others later on, and likely related to cultural narratives (McNally & Clancy, 2005a).

In one study, McNally and Clancy (2005a) specifically showed that hallucinations of entities in the room interpreted as aliens were related to episodes of sleep paralysis. Furthermore, in another paper published the same year (McNally & Clancy, 2005b), it was shown that among those in whom a link between recovered memories of sexual abuse and sleep paralysis was found, 17% claimed that this abuse occurred during an alien abduction attempt. Also, we discussed earlier the links between dissociation and fantasy proneness, in that the latter would, according to the SCM, be a factor of dissociation. However, research has shown that people who report abductions by or prolonged contact with aliens generally exhibit what is called a “fantasy-prone personality” (Bartholomew et al., 1991). Thus, if these individuals are devoid of any psychopathological conditions, it appears that they generally experience a rich fantasy life that could facilitate the interpretation of visual hallucinations resulting from sleep paralysis as the presence of aliens.

In view of the vast amount of information to be put together, here is an attempt to summarize all the data described so far in order to clarify the links between dissociation and allegations of alien abduction. Some people, for various reasons ranging from daily and occasional worries to critical psychological disorders, experience sleep disturbances. These sleep disturbances, such as sleep paralysis, have psychological consequences such as a proneness to fantasy, daydreaming, or false memories. These consequences, in turn, are related to high levels of dissociation. Sleep paralysis is known to lead to hallucinations that can easily be interpreted as the presence of aliens, this being facilitated by high levels of fantasy proneness. Thus, dissociation appears to be associated with these alien abduction claims in that it is potentially caused by conditions that also cause these (false) memories of extraordinary and implausible events. As such memories can be traumatic (McNally et al., 2004), it is also likely that they facilitate the persistence or increase in the frequency of sleep disturbances (van Heugten-van der Kloet et al., 2014), thus increasing the likelihood of re-experiencing events interpreted as alien abduction attempts. A graphic summary of the links between dissociation and allegations of alien abduction is provided in Figure 1 below.

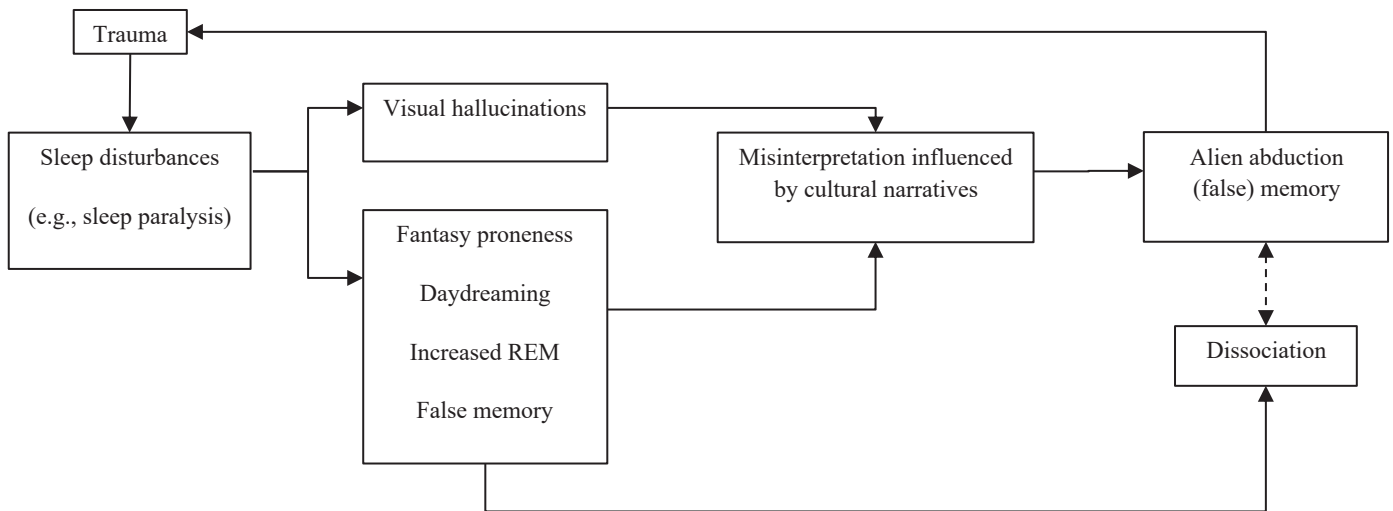


Figure 1. Summary of the links between dissociation and alien abduction allegations from a sociocognitive perspective.

Conclusion

The literature does not seem to directly link dissociation (in its non-pathological as well as pathological form) to allegations of alien abduction. However, the sociocognitive model of dissociation allows finding a relationship between both since they seem to be caused by the same psychological conditions, possibly arising from sleep disturbances (e.g., sleep paralysis). Thus, it seems important to explore several factors in people who report extraordinary alien abduction experiences, without necessarily exploring any pathological condition. High levels of dissociation in a person claiming such an experience may indicate a need to explore fantasy proneness, a tendency to develop false memories, and sleep quality. This may provide a more credible explanation for their claim than an actual case of attempted alien abduction.

It is also necessary to emphasize that in the hypothetical cases described in this chapter linking dissociation and alien abduction allegations, people may be genuinely convinced of their experiences, without any deception or pathological condition. While certain traits may facilitate the occurrence of such events and memories (e.g., high fantasy-prone personality traits), the conditions described in this chapter apply to everyone and no one seems immune to such phenomena.

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Alien Abduction: Takeaways

David V. Forrest

*Let us go then, you and I, /When the evening sky is spread out against the sky
Like a patient etherized upon a table*

T.S. Eliot¹

Abstract: My hypothesis (2005) was that the phenomenon of alien abduction may be an unconsciously reworked narrative stimulated by intra-operative awareness. A study by a Harvard psychologist of persons who believed they had been abducted by space aliens found that sleep paralysis, a history of being hypnotized, and preoccupation with the paranormal and extraterrestrial were predisposing experiences. I noted that many of the frequently reported particulars of the abduction experience bear more than a passing resemblance to medical-surgical procedures and proposed that experience with these may also be contributory. There is the altered state of consciousness, uniformly colored figures with prominent eyes, in a high-tech room under a round bright saucer-like object; there is nakedness, pain and a loss of control while the body's boundaries are being probed; and yet the figures are benevolent. No medical-surgical history was apparently taken in the Harvard study, but psychological laboratory work evaluated false memory formation. Anesthesiologists, psychiatrists, and psychologists are addressing intra-operative awareness (IOA) and ways in which the medical hypothesis could be elaborated and tested. If physicians and surgeons are causing this syndrome in a percentage of patients, we should know about it; and persons who feel they have been abducted should inform their surgeons and anesthesiologists.

Keywords: Alien abduction, Medical-surgical anesthesia, Intra-operative awareness, Childhood memories, Unconscious sources of fantasy, Evaluating alien experiences

Introduction

We psychiatrists were called alienists in prior centuries, as we studied the alien sensibilities of psychosis. In the past 50 years a new phenomenon has arisen for psychiatric study that may justify that term in a new way.

In the "Books on Health" section of *The Science Times* of August 9, 2005, my eye was caught by an article entitled "Explaining Those Vivid Memories of Martian Kidnapping." It was a pre-publication discussion of a new book, *Abducted: How People Come to Believe They Were Abducted by Aliens*, by Susan A. Clancy, Ph.D., a Harvard postdoctoral psychology student. The article said that Clancy had found that sleep paralysis, a history of being hypnotized, and a preoccupation with the paranormal and the extraterrestrial may have predisposed her subjects to have the experience.

How I Became Involved

As I am, among other things, a consultation-liaison psychiatrist who consults to the Neurology Department at Columbia, and think in medical mechanisms, I harbored a pet theory about alien

¹ *Love Song of J. Alfred Prufrock*

abductions that I shared with a small proportion of the terrestrial population in the form of a Letter to the Editor of *The New York Times*. This read as follows:

To the Editor:

“Explaining Those Vivid Memories of Martian Kidnapping” (Books on Health, Aug. 9): I wish to propose another possible contribution to those experiences (in addition to sleep paralysis, a history of being hypnotized and a preoccupation with the paranormal and the extraterrestrial).

Could dimly or subconsciously recalled memories of surgery play a part? One is in a state of altered consciousness (anesthesia), surrounded by green figures (surgeons) whose eyes are more noticeable above their masks, in a high tech ambience with a round saucer-like bright object above (the O.R. light), and the body’s boundaries are being breached by intubation, catheters, intravenous needles and the surgery itself.

Perhaps surgery in childhood would be especially contributory, transformed by the amnesia for childhood. The autonomic (blood pressure, pulse) response could be a learned bodily memory. And the surgical aliens are well-meaning. The puzzle is why we don’t see many cases in New York City. Perhaps it’s because we can’t see the sky much.

Dr. David V. Forrest

New York

The writer is a psychiatrist.

Regarding my impression of a paucity of cases in our New York City experience, my colleague Ronald O. Rieder, M.D., Vice Chairman for Education in Columbia’s Department of Psychiatry remarked, “They don’t want us New Yorkers. We’re too much trouble!” Others suggested we New Yorkers would probably probe *them*. All humor aside, in the flat country of wide open spaces and big skies, when one spends one’s days looking around 360 degrees and not seeing anyone, it might be a bit less lonely to look up for some company.

The same morning my letter appeared I received a call at my office from Katy Ramirez Karp, the Booking Producer for MSNBC’s *Countdown with Keith Olbermann*, inviting me to a live interview on the show on the evening of the next day about my letter and the phenomenon.

I was already familiar with Streiber’s *Communion* and the work of John Mack, M.D., the Harvard psychiatrist, but did a rapid literature search.

The most useful reference from the search was the 1996 issue of *Psychological Inquiry*, which was devoted to an article by Leonard S. Newman and Ray F. Baumeister, “Toward an Explanation of the UFO Abduction Phenomenon: Hypnotic Elaboration, Extraterrestrial Sadomasochism, and Spurious Memories,” together with commentaries. Baumeister and Newman spoke of a motive of escaping the self but emphasized pain as a central UFO abduction feature. They cite Disch’s (1987) article about Whitley Streiber’s *Communion* that found an “acorn to oak” relationship to Streiber’s 1986 story “Pain” about a man drawn into sadomasochistic rituals with prostitutes. Loss of control was also associated, frequently by bondage.

In the Olbermann interview, Keith began by summarizing the phenomenon:

The extraterrestrials are invariably tall with big heads. Their eyes are large. And often the only feature you can see, the only one that’s even distinguishable on their heads are those big eyes.

The aliens are often green from head to toe or all one color. The aliens are conducting some medical or anthropological experiments. They strap their human guinea pigs down to a table of some sort, often by invisible means. Despite the element of danger that that would suggest, the abducted victim somehow knows that the aliens mean them no harm. Somehow they manage to diminish both the human's degree of consciousness and the pain that the subject should be feeling considering that he or she is invariably being probed.

I said the similarities between alien abduction reports and the usual experiences of surgical anesthesia were numerous. Anesthesia by definition resembles the reported alteration of the state of consciousness. Surgeons wearing green (or uniformly colored) scrubs resemble the mysterious green figures. The high-tech saucer interior could be the operating theater (a term given new meaning!). The bright saucer-like object above might be the operating room light. The eyes of the aliens-surgeons might be prominent because they are all one sees of the faces of the surgical staff above their masks. The patient-abductee is physically restrained, not in control. There may be pain, and pain relief. There is nakedness, the humiliation of exposure and having things (like catheters) inserted into or probing the body. Physiological changes in the heartbeat and blood pressure occur. And yet there is somehow the reassuring knowledge that the purpose is benevolent.

Olbermann summarized that “people are in essence remembering either some operation that they’ve had or possibly even one that they’ve dreamt about or seen?”

I replied that it was worth investigating for two practical reasons. One is if we are causing this experience in a small, but vulnerable proportion of the population, which still might number in the millions, it’s important to know about it. And furthermore, such people should not be ashamed and should bring it forth when they face medical or dental anesthesia and tell their doctors or anesthesiologists about it because one’s mental set in going into a procedure affects its outcome. In other words, one should be aware if one is prone to intra-operative awareness, which is the substrate or precondition for narrative production.

The exposure of the television interview led to my being contacted by a trauma surgeon in California who said he was being sued for a surgical procedure he had done by a family that believed they had been abducted. He said “the whole town, north of Fresno, and its Mayor” that the patient came from believed they had been abducted, and asked me for some references from the literature for possible use by his lawyer.

The supermarket tabloid *Weekly World News* then picked up the story, and featured four masked surgeons with large black almond eyes looking down at the reader, with the headline, “Your Doctor Could Be an Alien” (Siegel, 2006).

Anesthesiologists Weighed In

The ‘bookofjoe’ web log, written by the self-styled “world’s most popular blogging anesthesiologist,” had picked up the story from the *New York Times* as one answer to the question, “Where does your consciousness go when you are under anesthesia?” An anesthesiologist from Columbia Presbyterian, Hilda Pedersen, M.D., supplied me with transcripts from a conference of The New York State Society of Anesthesiologists on December 11, 2005, “Awareness Following Surgery: Hype or Reality?” which addressed the unsolved

problem of determining how aware an anesthetized patient is. In reviewing this and other more recent sources, I have learned that tests like being able to follow the request to squeeze one's hand (Mashour et al. 2008) are not definitive. It may be that distressing intra-operative awareness occurs more with neuromuscular blocking agents (muscle relaxing). One interesting future study might be whether red heads are more likely to experience abduction as they are harder to anesthetize fully. So are drug abusers, and they have more IOA.

I shall not revisit the relevant details of anesthesia I reported in my (Forrest, 2008) paper. Anesthesiologists continue to be intrigued with IOA, however, and the interested reader may consult the review by Mashour et al. (2015) of what is non-controversial and what is still controversial (much). Veselis (2018) discusses the problems of veridical recollection (also relevant to UFO sightings) and the observation that false memories (such as seeing Bugs Bunny at Disneyland) are not usually completely false, but constructed in part from genuine experiences. Psychiatrist Anne Skomorowsky (2014) reviewed recent discussions of IOA and reminded us that other things than abduction might be triggered. She described a case of acquired dislike of jazz music played intraoperatively. I might add that one very good thing that has come of IOA studies is that the mores and manners of those in the OR have changed radically from when I participated in surgeries as a sub-intern and medical-surgical intern in 1963-5, when we would regale ourselves with prognostic medical comments and even jokes, many off-color, and other saucy talk that are completely avoided today, not just because of it being an inappropriate workplace environment, but because it is impossible to tell whether the anesthetized patient is listening and might be harmed.

At a presentation of this paper at The New York Clinical Society on December 11, 2006, Samuel Selesnick, M.D., an ENT physician at New York Presbyterian Hospital, described the variability among agents in anesthesia, analgesia, immobility, and amnesia.

Following surgery, patients who recall intraoperative events should be interviewed for details and reasons for the occurrence, possibly employing structured interviews and questionnaires. Psychotherapeutic support should be offered to those patients who report intraoperative awareness.

The difficulty in ascertaining lack of consciousness in anesthesia also applies to lethal injection. All these executions are potentially and indeterminately cruel and unusual.

Background in Psychology of Popular Culture

Susan Clancy's book appeared, and documented her experience with the abductees, which was much richer and multidimensional than the *New York Times* item could indicate. It is an engrossing read, and not the least of its interest is her willingness to present her subjective experience as a young woman doing field research, and also her empathic, deeper appraisal of her subjects' existential experience.

Clancy became involved in the study of alien abductions indirectly through the study of memory as a Ph.D. psychology student at Harvard in the mid-1990's during the height of the "recovered memory wars." That is, the issue, divisive among psychologists. of whether ordinary memory

differs from traumatic memory in that the latter become repressed and dissociation (otherwise known as spacing out or strange feelings of alienation) may occur.

Clancy approaches the purported consistency of abduction stories by first saying they are only broadly similar and not consistent in their details—except for the general plot of kidnapping for medical examination or sexual experimentation, and certain details: “big heads, wrap-around eyes, reversible amnesia, probing needles” (p. 83).

In Clancy’s thorough media review, abduction accounts did not exist before 1962, and only after they began appearing on TV and in the movies. In 1964 Betty and Barney Hill recalled under hypnosis an abduction experience that started it all, following an episode of *The Outer Limits* entitled the “Bellaro Shield.”

Preoccupation with aliens occurred long before the second half of the 20th Century; “since about 1700, people have accepted the idea that that life may exist elsewhere in the universe” (p. 84).

Whitley Streiber, who wrote *Communion* in 1987, was the most famous abductee, with his hypnotically induced sensational account of a female alien who wanted sex with him, but is prevented by his lack of an erection. The book involved a distinguished Columbia University pharmacotherapist, Donald Klein, M.D., who testified that no psychiatric illness was involved.

The abduction phenomenon occurs only in cultures that are familiar with Western cultural references. Clancy argues that in the United States, children know what an alien is supposed to look like at an early age—for example, her own daughter at age 2 ½.

Clancy found that the persons who have the abduction experience are high in schizotypy. The term connotes eccentricity and perhaps a proneness to fantasy. She found they may believe in such things as ESP, astrology, and crystal therapy, and work in professions like teaching yoga, the theatre and the visual arts.

To answer the question, why do they want to believe it happened? Clancy argues that “alien-abduction memories are best understood as resulting from a blend of fantasy-proneness, memory distortion, culturally available scripts, sleep hallucinations, and scientific illiteracy, aided and abetted by the suggestions and reinforcement of hypnotherapy” (p. 138). Clancy feels that *why* the abductees want to believe it is problematic. “The experiences are terrifying, nightmarish. They take place in the dark when you’re alone and vulnerable. The alien creatures are repulsive with vacant black eyes, long fingers, segmented bodies. They steal you away from all that’s safe and familiar, and then they probe and dig into your brains, nasal cavities, genitals, and intestines. Things are carved out of you, or embedded in you” (pp. 138-139).

Clancy is critical of the theory of Baumeister that the abductees are masochists, and of other theories that they are little nobodies seeking attention. She favors Frederic Bartlett’s 1932 “effort after meaning” hypothesis and Freud’s showing how people’s mental health benefits from a coherent narrative. She found that none of her abductees would choose not to have been abducted. Clancy finds religious parallels with the Christian narrative. She agrees with Jung that

E.T.'s are technological angels and that many abductees long for contact with the divine. "Being abducted by aliens may be a Baptism into the new religion of our technological age" (p. 155).

Richard McNally Ph.D., Professor of Psychology and Clancy's thesis advisor at Harvard, conveniently for this discussion, gave a Grand Rounds entitled "Recovering Memories of Sexual Abuse, Past Lives and Space Alien Abduction" at the New York State Psychiatric Institute on June 23, 2006. McNally discussed research with Clancy and others (see McNally et al) with sexual abuse patients whose memories were repressed and unavailable, recovered, and continuous (never forgotten). Their psychological laboratory tests were able to demonstrate proneness to false memory formation. Other groups studied were those with recall of past lives, and the alien abductees. McNally described the difficulty Clancy and he had obtaining a sample of subjects through ads. A "whiff" of schizotypy and an "absorption" trait were found in the abductees, with many "New Age" beliefs in Tarot (70%), Astrology (60%), and ghosts (70%). 90% believed in spirituality and, in the Boston area, many were lapsed Catholics. They all had had sleep paralysis/hypnopompic experiences.

Psychiatrists Responded

In the question period after McNally's talk at Columbia, I summarized the resemblances to the surgical situation, and asked McNally if any medical history had been taken, and particularly surgical history. He had no such data. The Harvard researchers had also not graded the level of hypnotizability, for example with the Spiegel scale (Spiegel and Spiegel, 2004). [Jeffrey Lieberman, M.D., Chairman of Psychiatry at Columbia, offered collaboration with our Department to investigate this hypothesis. No collaborative studies have been done to date.]

In the discussion at the luncheon following McNally's presentation, Donald Klein, M.D., who had been cited in Whitley Streiber's 1987 book *Communion*, said he also thought that the abductees may have temporal lobe epilepsy, because of the religious intensity of their experiences.

While we are casting about for related phenomena, I might now add that a frequent feature of near death experiences involves ascension up out of one's body so that one is above and looking down on it. And psychedelic experiences may include a rapid rising through geometric forms—I can personally report that from my one trial of mescaline in 1962, I hallucinated a rapid elevation upward through what looked like the Eiffel Tower.

How These Hypotheses Could Be Tested

The hypotheses I am proposing could be classified from strong to weak. The strongest hypothesis is that the abductees are recovering memories of actual surgery. These memories may be actual recall of the operating room before losing consciousness, or they could be memories that have penetrated the patient's anesthesia, or they could be memories from childhood filtered through childhood amnesia. The weak hypothesis is that abductees are conflating media concepts of aliens with images of surgical and medical procedures generally, images that they may or may not have experienced personally.

Even collecting a sample of persons who sincerely feel they have been abducted can be daunting, as Clancy and also Richard McNally, at his Grand Rounds presentation at Columbia, have entertainingly described. People ridicule investigators with experiencers.

First, a complete medical history could be taken, with emphasis on surgical and medical procedures, administration of anesthetic and consciousness-altering pharmacological agents, and age of occurrence and mental status at the time as these might affect vulnerability as well as content, although people continually revise past memories. Physiological reactions to recollecting could be monitored. Next, images of surgery in the patient's memory could be elicited and physiological reactions measured, all to be compared to bodily reactions to recounting memories of abductions for similar signatures.

Concluding Thoughts

The growing study of intraoperative awareness (Maskour, et al.), including the recognition that there remain many open questions, may offer more opportunities for study of the reworking of these experiences in fantasies, including those of abduction. But the limiting factor is the willingness of abductees to participate in studies that may question the source of their experience. It seems for many that it asks them to suspend an article of faith that they cherish and feel benefits them. Perhaps they can be comforted by the thought that the study of religion has not ended it. The principles of alien abduction are worthy of study as a belief system that is positively mysterious, miraculous, and admirable in many ways: intriguing, optimistic, idealistic, scientific, xenophilic, angelic, salvific, and (I cannot resist) uplifting—reminiscent of the Ascension or the Rapture eschatological position held by some American evangelical Christians to occur at the end of time.

But this is unrelated to scientific validation and remains in the domain of faith.

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Hypnotic Regression and False Memories

Christopher C. French

Abstract: Hypnotic regression is employed in various contexts with the aim of recovering allegedly repressed memories of traumatic events including alien abduction, past-lives, and childhood sexual abuse (including ritualized Satanic abuse). Evidence from all of these contexts fails to support the claim that the memories produced are true memories of events that really took place in objective reality and instead strongly supports the notion that they are false memories unintentionally produced by the technique itself. Other studies have directly shown that hypnotic regression can be used to implant false memories. In light of such findings, any reports based upon the use of this technique should be treated with extreme caution.

Keywords: Hypnotic regression, False memories

Introduction

Those who are, to varying degrees, skeptical regarding the extraterrestrial (ET) hypothesis have offered alternative psychological explanations for claims of close encounters of all kinds.^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21} There is general agreement that most claimants are sincere in making such claims although the possibility of deliberate hoaxes must always be borne in mind (see, for example, Philip J. Klass's²² critique of the Travis Walton case). The simplistic idea that all claimants are suffering from some form of serious psychopathology is not supported by available empirical evidence.^{23,24,25,26,27} So, if claimants are generally neither deliberately lying nor suffering from serious psychopathology, how do skeptics account for such claims?

It would clearly be naïve to believe that there is a 'one-size-fits-all' explanation for reports of all types of close encounters. Instead, the importance of different psychological factors will vary depending upon the type of close encounter we are considering. With respect to close encounters of the first kind, for example, factors such as the unreliability of eyewitness testimony²⁸ are likely to be highly relevant. When it comes to close encounters of the second kind, confirmation bias²⁹ should be borne in mind. Claims of close encounters of the third and fourth kind, that is claims of alien contact and alien abduction respectively, are likely to involve a wide range of psychological factors. At the risk of stating the obvious, with the possible exception of close encounters of the second kind, human memory is at the center of such claims and thus research into the reliability of memory must be considered when assessing their validity.^{30,31,32}

Rather than attempt to comprehensively cover all of the psychological factors involved in all types of close encounters, this chapter will focus upon one specific controversial technique used by many ufologists in their attempts to recover allegedly repressed or blocked memories of alien contact and abduction. Thomas E. Bullard³³ estimated that around 70% of the "well-investigated, high quality cases" in his sample had involved the use of hypnosis in attempts to either recover more details of an incident or else to recover a totally repressed memory. Prominent ufologists such as Budd Hopkins³⁴ and John Mack³⁵ were convinced of the authenticity of many case reports based upon the use of hypnotic regression. There is widespread acceptance within ufology that the alien abductors are able to partially or totally wipe the memories of abduction from their victims' minds. Whereas many supporters of the ET hypothesis view hypnotic regression as a valuable tool

allowing the hypnotist to recover veridical memories of events that really did take place, skeptics maintain that, on the contrary, hypnotic regression is likely to result in the formation of false memories for events that never actually happened at all.

Before proceeding further, readers may reasonably expect a clear definition of the terms *hypnosis* and *hypnotic regression*. Sadly, such readers will be disappointed. For much of the history of hypnosis, two very different perspectives on hypnosis have vied for supremacy on the basis of theoretical coherence and empirical findings. At the risk of oversimplification, *state theorists* have argued that hypnotic induction procedures can be used to put susceptible individuals into an altered state of consciousness sometimes referred to as a *hypnotic trance*. This state is said to be as different from normal waking consciousness as, say, dreaming. While in this state, it is claimed that the individual's mind works in a completely different way to how it works during normal waking consciousness. For example, they may become extremely susceptible to suggestions from the hypnotist as well as demonstrating much higher levels of physical strength and pain tolerance than normal. Their memory may be enhanced, allowing them to provide detailed information regarding previously witnessed events or even to recover memories that had previously been completely repressed. It is claimed that the hypnotist may be able to hypnotically regress them back in time allowing them to mentally re-experience events that took place weeks, months, or even years earlier.

A typical and influential example of a state theory is Ernest Hilgard's *neo-dissociation theory*.³⁶ Hilgard argued that there exist multiple systems of control which are not all conscious at the same time. Normally, a central control structure known as the *executive ego* monitors and controls the other systems but under hypnosis this central control is removed. As a result, consciousness can become compartmentalized. Theoretical accounts of a wide range of hypnotic phenomena were proposed based upon this theory.

In contrast to the state view of hypnosis, the unimaginatively named *nonstate theorists* argued that the full range of so-called hypnotic behaviors could be adequately explained without having to resort to an explanation in terms of a unique and special altered state of consciousness. Instead, they point to a range of more mundane psychological concepts to explain the observations, such as compliance, suggestibility, imagination, distraction, and relaxation. Non-state theorists such as Nicholas Spanos³⁷ and Graham Wagstaff³⁸ view the typical interaction between hypnotist and participant in terms of role-playing. For example, Wagstaff proposed that three stages are typically involved: (i) the participant works out what is expected on the basis of previous knowledge of hypnosis and current instructions; (ii) the participant employs various cognitive strategies to bring about the desired result (and sometimes succeeds); and (iii) if the strategies are unsuccessful, the participant gives up or else fakes it. The nonstate theorists have generally adopted the approach of demonstrating that a wide range of allegedly hypnotic phenomena can occur without the requirement of any hypnotic induction procedure. If volunteers are either asked simply to "try really hard" to achieve the desired outcome or even to just pretend that they are hypnotized, the resulting behavior is often indistinguishable from that of volunteers who have gone through a full hypnotic induction procedure³⁹.

A detailed discussion of the relative strengths and weaknesses of the state versus nonstate perspectives on hypnosis is beyond the scope of the current chapter but it is worth noting that

recent theoretical developments and empirical observations suggest that some sort of rapprochement between the two may be possible in the near future⁴⁰. In the absence of universal agreement regarding the definition of what a hypnotic trance is (or even whether it exists at all), from this point on the term will be used to refer to the state that a person is in having gone through what would typically be labelled as a “hypnotic induction procedure” without any implied endorsement of either the state view or the nonstate view. Both sides of the debate tend to agree on many aspects of the relationship between hypnosis and memory.

Common Misconceptions About Memory

Survey data from around the world reliably demonstrate that members of the general public hold a range of beliefs about the nature of memory that are at odds with the evidence-based views of memory experts. For example, Daniel J. Simons and Christopher F. Chabris⁴¹ reported the following results from a large-scale telephone survey of US adults (p. 1):

Substantial numbers of respondents agreed with propositions that conflict with expert consensus: Amnesia results in the inability to remember one's own identity (83% of respondents agreed), unexpected objects generally grab attention (78%), memory works like a video camera (63%), memory can be enhanced by hypnosis (55%), memory is permanent (48%), and the testimony of a single confident eyewitness should be enough to convict a criminal defendant (37%).

Similarly, Lawrence Patihis and colleagues⁴² reported high levels of agreement in a sample of 390 undergraduate students with a number of statements about memory that are not in line with our current scientific understanding. Here are some of those statements (with the percentage of students agreeing in parentheses): “Traumatic memories are often repressed” (81%); “Repressed memories can be retrieved in therapy accurately” (70%); “Hypnosis can accurately retrieve memories that previously were not known to the person” (44.6%); “Memory of everything experienced is stored permanently in brain (*sic*), even if we can't access all of it” (66.7%). A minority of the sample (15.1%) agreed with the statement, “With effort, we can remember events back to birth.”

Christopher C. French and James Ost⁴³ reviewed surveys of beliefs about memories from several different countries from samples of the general public as well as professional groups including clinical psychologists, psychotherapists, counsellors, and those involved with the justice system at all levels. Misconceptions about the true nature of memory were widely held amongst all of the groups surveyed. Belief in the psychoanalytic notion of repression was common in virtually all groups with the exception of experimental psychologists directly engaged in memory research. This group, arguably the most well-informed regarding the true nature of human memory, demonstrated high levels of skepticism with respect to the concept of repression⁴⁴.

Beliefs About the Relationship Between Hypnosis and Memory

The relationship between hypnosis and memory is one of the most widely misunderstood aspects of memory⁴⁵. It is commonly believed that hypnosis can be used not only to recover additional details of a previously witnessed event but also as an almost magical key to unlock completely repressed or hidden memories. Note that these beliefs rest upon the misconceptions that (a) memory works like a video camera, accurately recording every detail of experiences, and (b) that sometimes memories, especially traumatic ones, are repressed and are completely inaccessible to conscious awareness until they either emerge spontaneously or as a result of so-called “memory

recovery techniques” such as hypnosis and guided imagery. In fact, the evidence suggests that such techniques can lead to the generation of false memories.

Several surveys, in addition to those already cited, confirm that misconceptions regarding the relationship between hypnosis and memory are widespread. For example, Myles Johnson and Coleen Hauck⁴⁶ reported that 88% of their sample of the general public agreed with the statement that “hypnosis enables people to accurately remember things they could not otherwise remember” (p. 17). A follow-up study by Joseph Green and colleagues⁴⁷ found a similar rate of endorsement of that claim in college students across four countries (Australia, Germany, Iran, and the US), indicating that such misconceptions are a global phenomenon.

Worryingly, many practitioners who directly employ hypnotic regression in their own work also appear to have a poor understanding of the relationship between hypnosis and memory^{48,49}. For example, in 1994, Michael Yapko surveyed the views of psychotherapists regarding this issue⁵⁰. This is how he summarized his findings (p. 64)⁵¹:

Survey data regarding hypnosis and suggestibility indicate that while psychotherapists largely view hypnosis favorably, they often do so on the basis of misinformation. A significant number of psychotherapists erroneously believe, for example, that memories obtained through hypnosis are more likely to be accurate than those simply recalled, and that hypnosis can be used to recover accurate memories even from as far back as birth. Such misinformed views can lead to misapplications of hypnosis when attempting to actively recover memories of presumably repressed episodes of abuse, possibly resulting in the recovery of suggested rather than actual memories.

Reasons to Doubt the Veracity of Reports Based on Hypnotic Regression

There are several strong reasons to believe that reports produced as a result of hypnotic regression are often nothing more than fantasies based upon a complex mix of imagination, expectation, traces of real memories from a variety of sources (including movies, novels, and TV shows), and suggestions from the hypnotist and others. For example, as noted above, it is widely believed that hypnotic age regression can be used to recover memories from early childhood. One of the reasons that observers of hypnotic regression find it such a compelling phenomenon is that those who undergo such a procedure not only seem able to report detailed memories of events that allegedly took place some considerable time ago, but they actually appear to be re-experiencing the events themselves. They appear to be able to not only describe in detail what happened at, say, their birthday party when they were seven, they appear to revert to behaving as a 7-year-old child would. Their voices change, their vocabulary changes, and their mannerisms change. If they write or draw anything, their output is childish in appearance. However, there is considerable variability in how accurately the behavior demonstrated actually corresponds to that of a child of the corresponding age⁵². Putting it simply, age-regressed individuals behave the way that adults *think* that children behave at particular ages, not, according to developmental psychologists, the way that real children of that age actually behave.

Many people believe that hypnotic regression can be used to recover memories from very early childhood. Much is known about the development of memory across the lifespan⁵³ and it is generally accepted by memory scientists that accurate autobiographical memories typically cannot be recalled by adults from the first couple of years of life, a phenomenon referred to as *infantile amnesia*. This is probably because at that age the infant’s brain is not yet physically mature enough

to store such memories and also because the infant lacks the verbal skills required to organize autobiographical memories. It therefore follows that any memory reports from this period produced as a result of hypnotic regression are almost certainly based upon false memories. Lisa Marmelstein and Steven Jay Lynn⁵⁴ asked 85 volunteers to report their earliest memories following hypnotic regression. This is what they found (p. 313):

After the hypnotic induction, nearly two-thirds of participants reported memories that fell well within the range of infantile amnesia (i.e., 2 years of age or younger). Furthermore, during hypnosis, more than half of the participants reported memories from 18 months or younger, more than 40% of the participants' memories dated from age 1 or younger, and more than 20% of the participants recalled memories dating from age 6 months or younger. These findings are consistent with the contention that hypnosis can engender false or inaccurate memories.

Denys Kelsey⁵⁵ and others⁵⁶ demonstrated that hypnotic regression can sometimes lead to reports of memories of actually being born, of life in the womb, and even of the moment of conception.

Amazingly, a minority of hypnotherapists go even further and claim that hypnotic regression can be used to recover memories from past lives⁵⁷. Albert de Rochas⁵⁸ was one of the first to report such cases. In 1904, he regressed one patient, Josephine, back through several previous lives and even back down the evolutionary chain until she could recall life as an ape. He also hypnotically “progressed” her into the future, describing the life she claimed she would be leading at the age of 40 and even further forward in time to her own death, where she witnessed her own funeral. Similarly, psychiatrists Robert Rubenstein and Richard Newman⁵⁹ published a short report in the journal *Science* in 1954 describing their success in “progressing” five volunteers a decade into the future, making it clear that they viewed such “memories” as nothing more than fantasies.

The popularity of hypnotic past-life regression soared with the publication in 1956 of a bestselling book, *The Search for Bridey Murphy*, by amateur hypnotist Morey Bernstein⁶⁰. Bernstein claimed that he had successfully regressed a Colorado housewife by the name of Virginia Tighe back into a past-life in which she was living in Cork, Ireland, in the early nineteenth century. Her name, she claimed, was Bridey Murphy. She described her life in great detail with a strong Irish accent, sang Irish songs and even performed some Irish dancing. Her story was turned into a feature film, inspired at least two pop records, and led to a craze for “come as you were” parties. Subsequent investigations, however, established that Bridey had never existed and her fictitious life was probably a result of hearing tales of Ireland from neighbors and relatives, combined with a teenage love of playing Irish roles in amateur dramatics.⁶¹

Nicholas Spanos and colleagues⁶² carried out a series of experimental investigations which provided important insights into the nature of past-life regression. Those volunteers who exhibited past-life identities had higher levels of hypnotizability and fantasy proneness compared to those who did not but did not differ in terms of psychopathological tendencies. Typically, those volunteers reporting past lives were unable to answer simple questions that one might reasonably expect a person living in the claimed country and era to be able to answer such as: Who is the ruler of your country? Is your country at war? What is the currency of your country?

The series also demonstrated that the content of the past-life identity was strongly influenced by suggestions from the hypnotist. For example, in one study participants in one condition were told,

prior to being hypnotized, that past-life identities often lived in exotic cultures and were often of a different race and sex to that of the current self. Such characteristics were much more likely to manifest in these participants compared to those who were not primed in this way. In a separate study, the participants in one condition were told that children in the past were frequently the victims of abuse and this was again reported much more often for these participants compared to a control group who were not primed in this way.

There have been some rare instances of past-life reports being given as a result of hypnotic regression that contain a lot of historically accurate, fairly obscure, information in contrast to the more typical sketchy and inaccurate accounts produced.⁶³ Further investigation has, however, then revealed the true source of the details produced, such as historical novels based on the events in question.⁶⁴ Given this, even academics who are sympathetic to the idea that reincarnation might be a genuine phenomenon, such as the late Ian Stevenson⁶⁵, warn against using hypnotic past-life regression because of the inherent risks of generating false memories. Despite this, a minority of hypnotherapists continue to make use of the technique, maintaining that psychological problems in the individual's current life may have their roots in trauma suffered in a past life.^{66,67,68} For example, it might be claimed that fear of dogs in the current life is a result of having been killed by a pack of wolves in a previous life.

Hypnotic regression has also been widely used by hypnotherapists to recover supposedly repressed memories of sexual abuse in patients suffering from a wide range of psychological problems. Sometimes the memories "recovered" in this way are of ritualized Satanic abuse involving the most extreme forms of sexual perversion, human and animal sacrifice, and cannibalism.^{69,70,71} Given that no forensic evidence has ever been produced in support of such claims⁷², we can be confident that they are a further example of false memories resulting from the use of hypnotic regression.

Lawrence Patihis and Helena Younes Burton⁷³ report that the first clear example of the use of hypnosis to deliberately implant a false memory occurred back in the 1880s. French physician Hippolyte Bernheim⁷⁴ successfully implanted a memory in his patient Marie that she had witnessed an old man raping a young girl. She subsequently gave a detailed account of the suggested event, insisting that it had really taken place and even expressing a willingness to testify under oath if required. Even though Bernheim claims that he subsequently used hypnosis to remove this distressing memory, it goes without saying that no modern ethics committee would approve of his actions in implanting such a memory in the first place. More recent demonstrations of the effectiveness of hypnosis as a means of implanting false memories have generally been more ethically acceptable. For example, Jean-Roch Laurence and Campbell Perry⁷⁵ used hypnosis to successfully implant a false memory of having been awoken by a loud noise one night in the previous week in 13 of 27 highly hypnotizable volunteers.

Hypnotic Regression in the Context of Alien Abduction Reports

As stated, many ufologists have made use of hypnotic regression with the aim of obtaining additional details regarding an alleged close encounter or even of "recovering" supposedly completely repressed memories of such an encounter. A variety of different triggers may cause an individual to believe that they may have been abducted by aliens even in the absence of any conscious memories whatsoever of such an event. These triggers include sightings of possible

UFOs, finding unexplained scratches and bruises upon one's body, episodes of so-called "missing time", and/or sleep paralysis.^{76,77} Each of these potential triggers have more plausible explanations than alien abduction.⁷⁸ However, once an individual suspects that they may have been a victim of alien abduction, the obvious, if misguided, next step is to try to "recover" the allegedly repressed memory of the event with the aid of a hypnotherapist.

One of the most famous cases involving the use of hypnotic regression is that of Betty and Barney Hill. Prior to hypnosis, the Hills reported that they had encountered a UFO as they drove home to New Hampshire after a vacation in Niagara Falls and Montreal in September 1961. A few days later, Betty began to have a series of dreams in which she and her husband were abducted by aliens and medically examined. It was not until January 1964 that the Hills were hypnotically regressed by psychiatrist Dr Benjamin Simon and further details emerged. It is worth noting that Dr Simon believed the accounts given by the Hills were fantasies based upon Betty's dreams.

Bullard³³ argued that the fact that reports obtained via the use of hypnotic regression are very similar to those reported without the use of hypnotic regression supports the claim that hypnosis had not influenced the memories recovered. However, it unclear why any differences between the two would be expected given that the accounts produced in both cases are likely to be largely based upon widely shared cultural knowledge. He also compared the accounts produced by four different hypnotists, again claiming that they were very similar to each other and therefore that this indicated that specific hypnotists had not had any great influence upon those accounts. Once again, there is no obvious reason why major differences would be expected if the core narrative is based upon a culturally shared template. Furthermore, in a subsequent analysis, Bullard acknowledged that in fact investigators did have some influence upon the contents of reports but insisted that this was only for peripheral details. Other commentators, such as Terry Matheson⁷⁹, have argued that the abduction reports produced by hypnotic regression are indeed influenced to a considerable degree by the beliefs and expectations of the hypnotist.

Bullard³³ also commented upon the results of a study carried out by Alvin Lawson⁸⁰ in which a group of volunteers were hypnotized and asked to simply imagine that they had been abducted by aliens. Despite the fact that these volunteers had been selected on the basis of their minimal prior knowledge of UFOs, the accounts they produced were remarkably similar to those produced by allegedly "real" abductees. In Bullard's words (pp. 27-28), "Not only did the subjects readily respond to an initial suggestion with an elaborate and detailed story, with little need for prodding along the way, but the contents bore striking similarities to alleged real abductions, both in more obvious matters and in odd, minute details." Despite this, Bullard concluded that the accounts of these so-called "imaginary abductees" lacked the coherence of those from "real" abductees. This, he argued, supported the claim that the "real" abductees had indeed all experienced a similar, objectively real, abduction. However, a more plausible explanation is that those who suspected that they had been abducted would undoubtedly have sought out information on UFOs prior to their hypnotic regression. Exposure to previous accounts would be expected to increase the similarity of their own "recovered" memories to previous, widely shared, cultural templates. The imaginary abductees, in contrast, had been specifically selected for their lack of any such knowledge. Their narratives, not surprisingly, strayed somewhat further from such shared narrative templates.

It is important to note that hypnotic regression is not the only way to produce false memories. Research has shown that simply imagining events which never actually took place can sometimes lead people to believe that the events did take place and, in some cases, to develop detailed false memories in support of such beliefs. This phenomenon is referred to as *imagination inflation*.⁸¹ For example, Henry Otgaar and colleagues⁸² implanted false memories of being abducted by aliens in over 70% of a sample of children aged 7-8 and 11-12 years simply by telling them that their mother had said that this had happened (half of the children were also shown a fake newspaper reporting implying that such abductions were a fairly common occurrence).

It should be noted that those who are hypnotically regressed are themselves initially often uncertain as to whether the “memories” reported are genuine memories for events that really took place in objective reality as opposed to imaginative fantasies. Studies have demonstrated that participants can easily be persuaded to disavow their belief in such memories fairly readily in the immediate aftermath of experimental investigations.⁸³ Such initial uncertainty is also common in other contexts where hypnotic regression is employed including “recovering” memories of previously repressed sexual abuse or past lives. If, however, such memories are validated as being true memories of events which genuinely took place and are reflected upon and possibly elaborated upon in further sessions, they may well end up as being detailed and firmly held.

Conclusion

Hypnotic regression has been used in several different contexts with the aim of recovering allegedly repressed memories of trauma. The available evidence strongly suggests that such memories are often, if not always, false memories. Furthermore, several studies have shown that hypnosis can be used to deliberately implant false memories. In light of such findings, any reports based upon the use of this technique should be treated with extreme caution.

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Aliens, UFOs, and Personal Schemas

Stanley Krippner

Abstract: The construction of personal schema is an adaptive human activity; it explains puzzling events that could produce stress if left unattended. This propensity can be applied to people's alleged experiences with purported aliens and UFOs. In the absence of a consensus regarding the topic, a range of explanatory schema have emerged, each purporting to provide "answers" to what may be complicated phenomena. Constructing a scientific schema to the topic may disappoint some experiencers but a critical assessment is more likely to solve these puzzles than simpler schema.

Keywords: Schema, Aliens, UFOs, Brazil

Personal Schemas

Human beings need to explain puzzling events in their lives, creating beliefs, scenarios, and worldviews at many levels—cultural, ethnic, institutional, familial, and individual. The human brain searches for beliefs more often than it looks for facts because the organism's goal is survival, not finding "truth." These "answers" are often helpful, serving as cognitive roadmaps that help people navigate their way through both placid and difficult times. But they may also be overly simplistic and do not do justice to complicated phenomena.

A cognitive or perceptual "schema" can be described as a framework, statement, or story that addresses important, existential human issues, and that impacts behavior. Personal schema often collide with the prevailing opinion embedded in cultural or institutional beliefs; examples of the latter include such institutions as organized religion, a business or company, and a school or university. It is within these frameworks that I approach the controversy over unidentified flying objects (UFOs). When someone views a UFO, one typically explains it in the context of their personal schemas, for example, "I have always believed that aliens from outer space are monitoring us"; "Seeing is not always believing; there must be a simple explanation for what I saw that does not include alien contact"; "There is so much that we do not know, and my experience attests to it." There is no institutional consensus on the topic, hence many experiencers create their own schemata to explain what they have seen.

I have discussed UFOs with such celebrated investigators as J. Allen Hynek, John Mack, and Michael Persinger, and I have heard lectures on the topic by Carl Sagan and Philip J. Klass. I have spoken to dozens of people who claim to have seen UFOs, sometimes at what they purport to have been close quarters. I have even met a few individuals who claim to have had personal interactions with the inhabitants of UFOs, including "abductions," close scrutiny of their bodily parts, and the implantation of foreign objects in their bodies. In engaging in these discussions, I have been aware of the vagaries of human memory; even first person accounts cannot escape the fallibilities of recall, which only deteriorate over time.

A Sighting in Brazil

With this orientation as a guide, I will discuss an unusual experience I had in February 1991. The Institute of Noetic Sciences (an organization founded by the astronaut Edgar Mitchell) had asked

me to take a group of its members to Brazil in order to visit spiritual communities and folk healers. On February 22, we stayed at a rustic country hotel near Ouro Preto, a historic mining town in the state of Minas Gerais.

During our evening meal, a member of our group asked me if I had ever seen a UFO, and I replied negatively. I mentioned that several years earlier, two friends and I had visited the Valley of the Dawn, a Brazilian spiritual community. During an outdoor meditation session, the three of us were sitting in different parts of the auditorium. Immediately after the session, one of my friends—Rolf—told me that he had just seen a UFO. He described it as blue, disc-like, with flashing lights on the bottom. He said it was visible for about thirty seconds and then disappeared. A few minutes later, my other friend—Alberto—rushed over to me, asking if I had seen a UFO. I immediately separated him from Rolf, so that he could not hear Rolf's account and asked for details. Alberto's description was exactly the same as Rolf's, except that his time estimate of the "sighting" was less than ten seconds. Residents of the Valley of the Dawn then told us that they often see UFOs during the afternoon meditation session, especially when recorded music is being played.

After relating this account to the group in Ouro Preto and offering several alternative explanations (a collision of space debris, optical illusions, hallucinations, cloud formations), I made the humorous observation that the aliens were neglecting direct contact with me. Nonetheless, it reflected a personal schema, namely "Visitors from other space have avoided me, even though I am open-minded about their existence." Then, I retired for the night.

Within the hour, Shirley, a member of our group, telephoned my room urging me to step outside because there was a UFO in the sky. In my haste, I neglected to put on my shoes, and my slippers were scant protection against the rocky terrain as I followed Shirley up a hill where the object could be seen to advantage. By this time, a dozen members of our group had assembled; their attention was focused on a distant circular formation of twinkling orange, yellow, and green lights situated about 45 degrees above the horizon. During the time that it remained visible, it moved neither closer nor farther from us. Its angle above the horizon appeared to remain constant as well. Its size was difficult to estimate, because it was so far away; however, it was several times the usual size of a planet viewed in the evening sky, more closely approximating the size of the moon. Every four or five minutes, one of the lights would dart from the sphere, pause for a short period of time, and then rejoin the other lights. All the members of our group reported the same details, indicating that, if the sighting was hallucinatory, it must have been a group hallucination.

One by one, we began to eliminate ordinary explanations. It could not be an airplane or weather balloon because its position was stationary. The same characteristic ruled out the possibility of its being a comet, meteor, or earth satellite. The nocturnal timing of its appearance ruled out sun pillars or ice crystals. Its geographical location eliminated the possibility of the aurora borealis. Ball lightning was unlikely because the lights twinkled rather than pulsed. The fact that there were several lights contra-indicated a planet or a star formation. The stationary nature of the formation did not suggest a fleet of airplanes; the occasional breaking of the formation by one light was not what one would expect if the circular system had been triggered by temperature inversion or a reflection of ground lights. The formation was too far away to consist of fireflies, birds, or other earthbound organisms, although it was impossible to accurately estimate its distance without additional visual cues.

Upon returning home, I shared my story with others, always being attentive to alternative explorations. One of my informants, Belgian researcher Wim van Utrecht, noted that we did not report seeing the moon, something we attributed to the dusky weather conditions at the time. But van Utrecht suggested that the disc was actually the moon, its appearance distorted by the local weather conditions. I have seen a blue moon, an orange moon, and various lunar eclipses—but nothing resembling the sphere in question. However, van Utrecht proposed that the darting lights were the erratic movements of clouds covering the moon. The lights were quite small and moved very rapidly, but they only seemed to travel about as far as the moon’s diameter, lending credence to the suggestion.

Van Utrecht soon followed this hypothesis with another schema. The date of the sighting coincided with the time that the annual Carnival celebrations are in full swing. I had attended half a dozen Carnival events over the years and know that they differ from one part of the country to another. However, there is something unique about Ouro Preto Carnivals: they are designed by local students. Perhaps some creative students in the area had created a huge floating disc, one from which lights were programmed to blink, twinkle, and move. This hypothesis makes more sense to me than any of the other schema, especially when one considers that my complaint over the dinner table may have unleashed a shared unconscious determination to be sure I finally would experience an UFO sighting, a determination that would have trumped a less complicated assessment. In addition, V.J. Ballester-Olmos investigated the records of Brazilian “ufologists,” discovering that there were no reported sightings of UFOs in the Ouro Preto area at that time. Additionally, Manuel Borraz discovered the existence of a truly Brazilian underground hot-air balloon subculture in the 1990s.¹ These investigators have made a convincing case that our 1992 sighting was a visual display of a Carnival-related disc, one that could easily have been interpreted as a UFO, especially after our dinner discussion of the topic. Moreover, the attached diagram, prepared by Scott Carpenter after he read my account, is congruent with the suggestion that an arrangement of lit candles sitting in transparent cylindrical recipients accounted for the sighting.

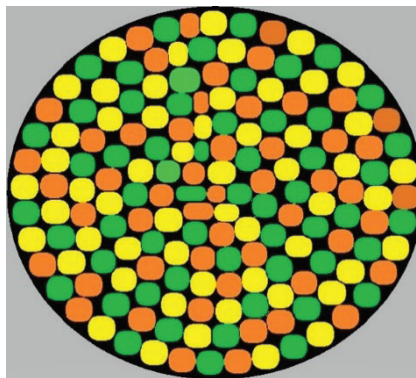


Diagram of what I remember (2021) I saw in 1991.

¹ Felipe Fernandes Cruz, “An Art of Air and Fire: Brazil’s Renegade Balloonists,” November 4, 2014, <http://theappendix.net/issues/2014/10/an-art-of-air-and-fire-brazils-renegade-balloonists> (Accessed August 6, 2021).

My Personal Schema

Some writers influenced by Carl Gustav Jung have posited that UFOs might not be actual objects but “mandalas” visualized by people yearning for harmony and equilibrium. However, nobody had told me exactly what I should expect—the UFO in question had not been described to me before I saw it—and my account tallied with those of people who came outside before and after I had arrived. I cannot deny that all of us would have been delighted if there were more harmony in our lives and more equilibrium in the world, but our accounts of this “mandala” were virtually identical. If this had been a Jungian “mandala,” perhaps it would be an example of what he called “the collective unconscious” at work. Jungian psychology is permeated with references to schema and so his suggestion needs to be cited, although I consider its viability unlikely, at least in this instance.

The circular formation was too far away and too dim to be recorded photographically. But I recall the experience quite clearly, and I continue to discuss it with individuals from time to time, still being willing to entertain ordinary explanations. In the meantime, has this anomalous sighting affected my personal schema? If anything, it has strengthened two of them: (1) Humans often have puzzling experiences that they attempt to explain by constructing various schema. (2) The construction of a scientifically informed schema may take time but is the most appropriate path to take if one would like to understand these experiences and to develop tools for similar experiences in the future. My friends and I had dismissed ordinary explanations at the time, but in subsequent years other explanations occurred that made sense to me, specifically that we had seen the moon at a time when cloud formations obscured its identify, or that a nearby Carnival celebration may have involved a colorful disc that could have been mistaken for a UFO. It is for this reason that I do not let my psychology students use the words “proof” or “proved” unless they are referring to logic, mathematics, or whiskey. Science needs to remain open-ended, and to keep searching for explanations that fit observations better than existing observations, something especially salient for controversial phenomena.

Even if my accounts and others like it do not provide evidence of extraterrestrial life forms, they take us deeper into the mysteries of human memory, emotion, and symbol-making—and help us chart the undiscovered realms in both our inner and outer worlds. The result of these experiences has been a greater awareness on my part of how people, myself included, make assumptions when confronted with new information. Humans have a propensity for schema construction because it is an adaptive trait; it provides explanations for puzzling phenomena, thus reducing stress, and promoting well-being. But if one is committed to a scientifically informed process, better explanations may emerge, even though they might be less satisfactory than one’s original attempts.

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Clinical Approach to UFO Sightings and Alien Abductions

Hélène Lansley and Thomas Rabeyron

Abstract: “UFO experiences” are exceptional experiences that lie on a continuum from a simple UFO sighting to abduction on board an alien ship. The understanding of these strange narratives can be achieved by using a specific method that takes into account the subjective aspect of the experience in order to be able to grasp all its aspects. After defining the concepts of ‘exceptional experience’ and ‘UFO experience,’ this chapter proposes a methodology adapted to the collection of narratives that takes into account the subjective aspects of the experience. Then, by using clinical examples, we study UFO sightings and abductions from the perspective of a model called the paranormal solution. We also show the specific psychological functioning of some people who report such experiences, which creates the opportunity to establish the hypothesis of possible links between UFO sightings and different type of psychological processes. Finally, a more sociological and anthropological approach leads us to consider the emergence of these experiences in western societies as a metaphorical expression of existential questions about the origins of life, and gives form to latent anxieties within current society.

Keywords: Exceptional Experiences, UFO sighting, Alien abduction, Paranormal Solution, Psychoanalysis

Introduction

UFO sightings and alien abductions fascinate and worry both those who experience them and those who receive their testimony. In this regard, the term ‘narrative’ is preferable to ‘testimony’ since it highlights the importance of taking into account the subjective aspect of the perceived event. Indeed, the term testimony refers to objectivity, the search for evidence, and usually serves a pragmatic purpose. The term narrative enables one to work with the explicit and implicit aspects of speech so that the experience can be understood from a more global point of view. This allows one to work with the unconscious processes related to the experience and highlights its transformative potential. Indeed, the experience cannot be separated from the individual and is necessarily part of a subjectivity. In this chapter, we will thus emphasize the importance of considering the overall subjective attribution of the “UFO experience” to better understand its nature. We will first present the methodology and the theoretical foundations we use to gather and analyze narratives of “UFO experiences.” We will then show how having access to a very detailed description of the experience helps one to analyze it more precisely and provides valuable information about the psychological processes involved. Finally, we will describe some of the processes implicated in alleged UFO sightings and alien abductions from the perspective of clinical psychology and psychoanalytical theories.

Exceptional Experiences and the Paranormal Solution Hypothesis

Exceptional experiences involve, from the subject’s point of view, an unusual or “extraordinary” interaction with the environment. The experience is then considered as being “paranormal” and generates intense emotions that stem from its unusual and strange aspects (Rabeyron, Chouvier, & Maléfan, 2010). The systematic study of exceptional experiences started at the end of the 19th century, but was gradually relegated to the margins of psychology during the 20th century because the experiences concerned were too complex in epistemological terms

with regard to the scientific approach of the time (Rabeyron et al., 2010; Rabeyron, 2015). Nevertheless, it seems relevant to focus on these experiences given the number of people who report them. For example, according to Ross and Joshi (1992), more than one in two people report such an experience during their lifetime. Moreover, recent advances in clinical psychology, psychiatry, and cognitive neuroscience have generated renewed interest in this topic (Rabeyron et al., 2010).

To understand the emergence of these singular events, we usually rely on a hypothesis called the paranormal solution in which exceptional experiences are considered as a specific reaction to traumas and negative life events (Rabeyron et al., 2010; Rabeyron, 2020). Exceptional experiences can then be understood as a nonpathological defense mechanism allowing the person to cope and to keep control over negative and traumatic life events such as trauma, early pathological relationships, and dysfunctional intra-family patterns. For example, Irwin (1991) states that the psyches of children abused by their alcoholic parents tend to develop paranormal theories in order to create a coping mechanism against aggressions. The goal is to have the feeling of controlling the events that happen to them, and this defense mechanism would remain active throughout adulthood. Also, people who describe exceptional experiences have frequently had an important negative life event before the experience such as disease, grieving, and accidents (Rabeyron & Watt, 2010). Most of the time, a first paranormal “event” leads to other and more frequent exceptional experiences. The paranormal solution model implies more precisely two levels (Rabeyron et al., 2010): the “experiential” one takes into account the exceptional experience as a singular lifetime moment that fits into the subject’s personal narrative and the “interpretative” level corresponds to the meaning and interpretation that the subject gives to the experience. In addition to these two levels, a third level concerns the further transformation processes that sometimes happen after these experiences (Rabeyron, 2010, 2022).

In this chapter, we will analyze in particular one category of exceptional experiences in which people believe that they have seen an *alien craft* (as a UFO) or have encountered an extraterrestrial life-form. The narratives that we receive go from the observation of something which is interpreted as being an alien craft to an abduction. Some people describe *nocturnal lights*, *shiny cigars*, sometimes huge *triangular vessels* (such as the ones described during the sightings of what are now called “the Phoenix Lights”). Closer encounters are also reported, such as the *close encounters* described in the classification of UFO sightings proposed by Allen Hynek in 1972, going from the first type which is observing a UFO from less than 150 meters away (type 1), the second type where the alleged UFO has left traces of its passage (type 2), or the third type where people claim to have seen extraterrestrials. More recently, ufologists have sought to complete this classification by proposing to add cases where people say they were kidnapped aboard a UFO (type 4), or sometimes that they have entered into communication with UFO occupants (type 5) or have had sexual intercourse with an alien (type 6). Type 4 and type 6 experiences are commonly called “abductions,” when people report having been kidnapped aboard an alien vessel and having undergone surgical and sexual experiments (Mack, 1994; Maleval & Charraud, 2003). The timeline of this type of experience is often incomplete and people sometimes report having what ufologists call *missing time*, and cannot recall the whole experience. Mack (1994) and Fuller (1966) described this missing time in the abduction cases they studied and tried to put their patients under hypnosis so that they could fill in these gaps. These different types of experience disrupt the subject’s life, ranging from a radical change in

beliefs, to symptoms of post-traumatic stress disorder (McNally, Lasko, Clancy et al., 2004; Rabeyron, 2018). In the latter case, it is sometimes necessary that the subject meet a psychiatrist or clinical psychologist who can help them make sense of this experience despite its unusual nature (Rabeyron, 2018; Rabeyron, 2020).

Listening to the Witnesses of UFO Sightings and Alien Abductions

For the last five years, we have been receiving cases of people who describe UFO sightings or alien abductions from two main sources in France. The first source is the *National Center for Space Studies* (CNES) which has a special unit, almost unique in the world, called the *Group of Studies and Information on Unidentified Aerospace Phenomena* (GEIPAN). This organization offers an information service to the public about “Unidentified Aerospace Phenomena” (UAP). The GEIPAN reviews all UAP for which French people have drawn up a report to the police or have completed a questionnaire proposed by the GEIPAN on their website. This unit works with a group of experts from different disciplines: astronomers, engineers, pilots, sociologists, psychologists, etc. This multidisciplinary approach allows a global study of the observations that are reported and a better understanding of UAP (<https://www.cnes-geipan.fr/en>, accessed on Oct. 6, 2022).

Our second source is through the *Center for Information, Research and Communication on Exceptional Experiences* (CIRCEE). It includes academic researchers and clinicians who approach paranormal experiences from a clinical and scientific point of view. CIRCEE was created in September 2009 by Thomas Rabeyron, Renaud Evrard, and David Acunzo (Rabeyron, 2020). Since its creation, CIRCEE has developed a counselling service in which four clinical psychologists have been working to this day. People who feel the need to share their exceptional experiences contact us through a form available on CIRCEE’s website. We then contact them and offer phone or video-conference interviews. We find it very important to have several sessions with the person—three to ten, more if counselling sessions are necessary—as valuable elements tend to be described once a trust relationship has been established with the clinician.¹ UFO sightings account for about 6% of interview requests at the counseling service. Abductions are more rarely reported and account for only about 3% of the requests. For half of these cases, the abduction experience is accompanied by a UFO sighting. Therefore, there seems to be some kind of *experiential continuum* between UFO sightings and alien abductions, just like Hynek’s (1972) classification, ranging from the observation of something unknown far away in the sky (such as a small light) to a close encounter where the subject describes being abducted in an alien spaceship. In some close encounter narratives, subjects also report some form of “communication with the UFO” (movements, flashes of light, telepathic messages), and effects on the environment (burnt ground, car breakdown, disturbances of electrical equipment).

We have developed a specific methodology that allows gathering these narratives by taking into account the phenomenology and the psychodynamic aspects of the experience (Rabeyron, 2022). It is indeed important to understand that witnessing a UFO sighting or an alien abduction is *always* part of a global psychological dynamic (Rabeyron, 2018, 2020). In the same way that Winnicott says that “a baby alone does not exist” (Winnicott, 1959), one may say “A UFO alone does not exist,” which means that the UFO never exists alone, without the narrative of a person, even when tangible and objective elements are reported to corroborate the sighting. Therefore,

¹ To find out more about CIRCEE and the counseling service, please refer to: Rabeyron, 2022.

understanding the subjective context of the experience and the associated conscious and unconscious psychological processes is crucial. However, most research in this area does not take into account this subjective attribution,² whereas our data show that it is essential to seriously analyze this parameter. Indeed, a UFO sighting or an abduction does not happen to anyone at any time, as we will demonstrate in this work. This also means that the framework used in the collection of the narrative has itself an impact on the overall understanding of the psychological processes involved. For example, choosing to contact the GEIPAN on the one hand or the counseling service of CIRCEE on the other is not the same thing and leads us to meet with people presenting different psychological profiles. The interview itself and its context must therefore be taken into consideration. The choice of the interlocutor (in terms of his profession or expertise in a given field), and the explicit or implicit request concerning the reasons for the exchange, are different elements that also need to be taken into account to understand the psychodynamic aspects of the experience.

The people who describe these experiences often “lived” them in a profound manner and they have become part their personal story. In this regard, clinicians have to be able to suspend their own personal judgment about the experience so that they can fully listen to the narrative of the person. The accounts of such experiences can indeed generate rejection from some experts who are unable to put aside their own a priori stance. Others can, on the contrary, develop a fascination that does not allow an appropriate approach toward these experiences. This fascination can make the interviewer run the risk of remaining fascinated by the “unusual objective elements” and not being able to analyze psychological aspects and other clues that allow for a complete picture of the alleged event. The interviewer must therefore be able to tolerate uncertainty and doubt when listening to such experiences (Rabeyron, 2020, 2022). In this sense, we rely on a position described initially by psychoanalyst Georges Devereux (1956), in the field of ethnopsychiatry, that of undecidability, which allows the clinician to move away from the question of belief and the possibility of such events.³ It thus becomes possible to develop an open approach to UFO sightings and abduction experiences, which is a necessary condition for their detailed analysis on the phenomenological and psychodynamic levels.

We will now describe in more detail how our interviews usually take place. During the first interview, the person describing a UFO sighting or an alien abduction may wish to display elements that are presented as evidence of the reality of what they have experienced. These can include photos or videos, markings in the environment, or sometimes traces on the body interpreted as marks of medical experiments carried out during the abductions. Despite the undecidability posture described above, we feel it is important to consider these various elements that are very useful in understanding the nature of the person’s experience. This more

² Humans engage in a psychological process of attributing their subjective experiences to objects in the world. The objects are cognitively reconstructed to be the causes of perceptual experiences.

³ As clinical psychologists, we do not take a position with regard to the ontological reality of such experiences - for example: are they the consequence of hallucinations or of “real” and objective events? - for several reasons : (1) the clinical counseling approach requires a posture of undecidability in order to help the person make sense of the experience and explore the different potential meanings of that experience; (2) the situations are extremely heterogenous and one explanation probably does not fit all UFO sightings and alien abductions; (3) our research setting and the data we have collected so far do not allow us to propose firm conclusions concerning this very challenging topic, especially for epistemological reasons (see on this topic: Méheust, 2000; J. Vallée & C. Aubeck, 2000).

“objective” step also promotes the therapeutic alliance and shows that we are “seriously” interested in what the reporters have experienced, which may not have been the case in previous interviews. Here are three examples from sessions conducted at the CIRCEE counselling service to illustrate these different aspects. The first one shows how these objective elements can sometimes lead to an understanding of the experience and the next two reflect what some people might want to show as what they assume is evidence of their experience.

Mrs. V. observes from her balcony a “whirlwind of purple lights in the sky.” Panicked by what she is seeing, she films it with her cellphone. During the first interview, she shows us the video, which, combined with the time, place and day of the observation, allows us to conclude that these were lights projected during a festival. This explanation greatly soothes her and she then suffers less from her anxiety.

Mr. H. contacts CIRCEE after strange experiences that he does not understand: He wakes up one morning with indelible blue marks on the back of his neck. During our first interview, he sends photos of these marks and the results of their biopsy, which concludes they are tattoo ink, but Mr. H. claims that he has never been tattooed. He’s convinced that these traces are evidence of an abduction and that aliens marked him. However, he does not remember being abducted, but has seen numerous videos of abductees on the internet, and knows that “missing time” is frequent. He therefore also thinks that aliens may have erased his memory.

Mrs. F. says she saw a “huge unidentified aircraft” at night through the window of her kitchen. The “craft” is described as being stationary and seems to float above the field at the bottom of Mrs. F’s garden. As it is emitting a kind of green halo, she decides to go to the observation scene the next morning to see if the halo has left traces. She takes a couple of photos of shattered pieces of wood and marks on the trees that she considers to be traces of the passage of the UFO.

Beyond these objective elements presented by the person, we collect their narrative using microphenomenology techniques (Rabeyron & Finkel, 2020; Rabeyron, 2022). These methods improve the collection of phenomenological information and give access to a very precise description of the experience. The people are put in a state of “evocation” (Vermersch, 1994), allowing access to a multitude of details, to the context and to their emotional state at the time of the alleged event. The description of the experience is then as close as possible to the experience itself, which allows for a better understanding of it and of the subject’s themselves (Rabeyron, 2022). To better understand the importance of having access to all these details, let’s take the example of a person describing a “flying saucer”: it is an object that is easy to imagine in our society since most people have been confronted with it in science fiction movies (Méheust, 1992, 2000; Vallée & Aubeck, 2009). However, the terms used by a person to describe their experience are usually not precise enough to represent “their” flying saucer in terms of size, appearance, color, movement, or shape. Each case always has its own unique elements (perfectly flat discs, sometimes standing vertically, or flattened ovoid shapes, with or without bright flashes, etc). These unique elements are very important in research so as not to create the confusion of thinking that all narratives can be grouped into one category. Thus, microphenomenology makes it possible to obtain a very detailed description of the subject’s mental representations, which appears as a first step to obtain a narrative that is as reliable and as detailed as possible.

Once a climate of trust has been established and the narrative of the experience well described, we try to understand more precisely the subjective attribution⁴ and the psychic reality⁵ of the person who reports such an experience. The “non-judgmental space” proposed during the interviews offers the possibility of deploying and developing the whole experience from a psychological point of view and not just the “objective” description of the UFO: what are the feelings related with UFO encounters or alien abductions? In what context did the observation take place? Had the person experienced any unusual events, either before or after the experience? What impact did it have on their life? What is their interpretation of their experience? In this regard, people often describe mixed feelings of fascination and fear at the time of the observation: something *impossible* has just happened to them, which sometimes induces what John Mack (1994) has called an “ontological shock” or what Renaud Evrard (2014) describes as a “paradigmatic breach.” Moreover, one of the questions asked after UFO sightings and alien abductions is often “*Was I chosen to witness this?*” Behind this question, there are narcissistic aspects that can make it difficult for the subjects to detach themselves from the experience. For those who contact ufologists, paranormal investigators, or a more official institution such as the GEIPAN, their testimony can become a source of interest which supports these narcissistic aspects. The case of abductions is even more complex, since the persons are often convinced that they were “chosen” by aliens, but find themselves caught in a paradox between narcissistic aspects (*I am different and that’s why I was chosen from among seven billion people on earth*) and traumatic aspects (*the abduction was terrifying and painful, will it happen again?*). This ambivalence between fear and feeling singled-out seems to be an important psychological dimension of people who have experienced abductions.

The fate of the experience’s aftermath is quite variable from one person to another, but we can nevertheless spot certain recurrences. The examples we are going to cite are found more regularly in cases of abductions, but as the “alien experiences” seem to be on the same continuum, it is not uncommon to observe the same after a UFO sighting. Thus, some people will join groups of abductees in order to find a “safe space,” with people “like them,” to whom they will be able to talk about their experiences. Others will implement avoidance behavior such as not sleeping alone, not going to a certain window at home, or taking a detour to stay away from certain roads at night. These strategies are in many aspects similar to PTSD symptoms such as described in the DSM-5.⁶ Changes in behavior are also observed regularly, such as developing a certain ecological awareness or working for humanitarian purposes following “telepathic messages sent by aliens.” In terms of belief, the persons sometimes start to believe in extraterrestrials, which is rarely the case beforehand, and which for some might even go against previous religious beliefs. They also often state the hypothesis that aliens might be the origin of mankind.

This psychodynamic approach, which focuses on what happened before, during, and after the alleged experience, allows us to have an overview of both the experience and its subjective attribution. We can therefore try to understand *who is the person behind the event*, which highlights the fact that collecting only the testimony of the experience does not allow for understanding these narratives in a global manner. Indeed, our data strongly suggest that a

⁴ See footnote 2.

⁵ “Psychischen Realität” described by Freud (1916-1917).

⁶ Diagnostic Statistical Manual, 5th edition.

number of these narratives have a “psychological function” that can be identified and analyzed. The emergence of alleged UFO sightings and abductions seems to be related to unconscious processes related to self-esteem regulation, internal conflicts, projection of previous trauma, etc. The work of investigation that we carry out is often parallel to the work of elaboration of the subjects who thus manage to put meaning on their experiences and integrate them in a more harmonious way into their psychological life. We will now describe more precisely the psychological or psychodynamic functions of these experiences.

Psychological Functions of UFO Sightings and Alien Abduction Experiences

UFO sightings, alien abductions, and the paranormal solution hypothesis

A number of studies point to the fact that some of these experiences could have their origin in negative life events and can thus be considered as a kind of defense mechanism or psychological solution (Si Ahmed, 2006; Rabeyron et al., 2010), in the face of previous trauma, anxiety and depressive states or affects as illustrated below:

Mrs. E. has just retired and is suffering from the absence of her son who is now living abroad. One evening, as she settles down in her veranda to enjoy the view of her garden, she observes a very bright rectangle in the sky that suddenly disappears. Since then, Mrs. E. is convinced that aliens are trying to make contact with her and that she was chosen to see this “spacecraft.” This experience has led her to spend her days doing research about UFOs and she has contacted several ufologists who have interviewed about her observation.

This experience seems to have permitted Mrs. E. to rediscover her self-esteem and to find a new, challenging occupation that helps her to unconsciously avoid the negative emotions related to the end of her professional career and the departure of her son. Abductions, like other exceptional experiences, are also often, apparently, a metaphor for a negative life event that has not been psychologically “digested,” and the experience appears as the expression of an unsymbolized unconscious psychological content. Traumatic events can then resurface in the life of the subject in the quasi-hallucinatory form of an alien abduction as illustrated by this case:

Mr. D. contacts CIRCEE because he wants to testify that he has been abducted from his bed by aliens in his late teens. At the age of 18, Mr. D. is awakened at 5 a.m. by a pale white light that appears in his room. Frightened, he leans over to turn on the light on his bedside table, but when he presses the switch, “the thing” turns his brain off, as if it has pressed a switch and Mr. D. immediately falls asleep. He wakes up on a cold table in an unknown room. He imagines that he is on board “a spaceship.” On each side of the table is a “Grey.” They are “tall beings of 1m 70,” grey with a slight bluish hue. Their head is oval, their skull is “thick and slightly elongated towards the back.” Their eyes have the same shape as humans’, but they are larger and completely black. Instead of a nose, they have two small holes. The mouth is small and seems devoid of teeth. What is “destabilizing” for Mr. D. is the lack of expression on their faces, “as if they didn’t want to show any emotion, I didn’t even see them blink.” The “Grey” to the right of Mr. D. has particular physical characteristics, small dots that look like moles and a scar. While “the alien” advances his hand to place it behind Mr. D.’s neck, he tries to scratch “the grey” to “get some of its DNA under his fingernail”; but as soon as he touches it, he wakes up in his bed. As soon as he wakes up, Mr. D. remembers being in pain, especially in the testicles, and felt as though he were paralyzed. At that precise time, he cannot remember what happened exactly. Since that time, he has had severe pain in his neck and thinks something was implanted (“a lead ball that I sometimes feel”). He says that through time, his memory has been coming back to him little by little, but he has difficulty determining whether it is just a dream or real memories. This

abduction experience happened to him a few months after he had been raped by a group of men. It also appears that one of the aliens he describes has physical characteristics very close to those of one of his attackers. Nevertheless, Mr. D. does not seem to consciously make any connection between the two attackers or the two experiences.

The case of Mr. D. suggest that it might be easier to psychologically deal with an “alien abduction” by a third party than with the traumatic experience of rape. The account of the abduction allows him to speak about his rape for the first time and gently acknowledge different traumatic events he has experienced through life. This case is consistent with the work of Richard McNally, who suggests that abductions could be the expression, by false memories, of real sexual trauma (McNally et al., 2004). McNally and Clancy (2005) also draw a connection between sleep paralysis, hypnagogic hallucinations, and sexual abuse in childhood. Sleep paralysis and hypnagogic hallucinations (related to when the subject is falling asleep or waking up) are common in people who have suffered sexual abuse and have often been linked to experiences of abduction and apparitions. Periods of falling asleep and waking up create a separation between the body and the psyche that are similar to “altered states of consciousness” and can generate hallucinations (Rabeyron, 2009; Rabeyron, 2015). Hypnagogical hallucinatory phenomena occur when the transition between waking and REM sleep phases malfunctions (Rabeyron and Caussié, 2015). Sleep paralysis causes great anxiety, such as a feeling of imminent danger and a tightening of the chest. Subjects often feel as if they are being attacked or raped (Rabeyron 2009). In the following illustration, we can also draw a link between a traumatic event and an exceptional experience, but the latter seems less to be a metaphorical replicate of the trauma in terms of the narrative and serves a different purpose for the subject’s psyche:

Mrs. P. is in psychological difficulty after receiving bad news from her general practitioner, who informed her that her uterus was infected and that she needed a hysterectomy. Her anxiety of undergoing surgery is accompanied by her mourning the fact that she will not be able to have another child. In this context, she wakes up one morning and sees an alien being leaning over her. It is described as having a humanoid form, but no face or gender characteristics, even though she thinks it was “a male.” It seems to be “composed of water or similar matter” and “an immense energy or intelligence emanates from it.” As he approaches his finger to her forehead, she immediately falls asleep and wakes up a few hours later. She now thinks that the infection of her uterus is due to hybridization procedures that she underwent due to these beings, but that she cannot remember.

Mrs. P.’s experience maybe offers her the possibility to find meaning after a negative life event and resulting grief. As mentioned above, UFO sightings and alien encounters often result in a certain narcissistic revival or can decrease depressive symptoms such as illustrated in Mrs. P.’s case. The fact of seeing an “extraterrestrial spaceship” can also alleviate anxiety of separation and loneliness. The perceived event therefore has a function for the subject’s psyche and does not happen in a random way. The two cases we have just mentioned illustrate the fact that such experiences occur regularly after or during difficult life situations, which themselves seem to be associated with previous traumatic events. The subjective context of the experience is therefore essential, but only becomes apparent after a thorough psychological and clinical evaluation.

Operatory functioning

Our research interviews and counseling with people reporting UFO sightings and abductions have also shown that certain people have the particularity of speaking in a very emotionally detached way, at least initially, about their experiences. This is an element that was not obvious at the beginning of our investigations as we rather expected to be in contact with people with “Fantasy Prone Personalities” (FPP), as is often the case with exceptional experiences (Wilson & Barber, 1983). FPP usually have finer mental boundaries, which causes confusion between the “inside” and the “outside” of the psyche. As a result, these subjects with more permeable mental boundaries are more likely to report exceptional experiences (Hartmann, 1991). They are people with very rich fantasy lives and emotional lives. However, we were surprised to discover that very different way from people with FPP, as illustrated by the following situations:

Mrs. T. describes many UFO sightings, and what she perceives as alien encounters, in a very banal way, including the observation of “a large white and bright vessel” that took place right after her father’s funeral. All her different life experiences are described on a single tone, and she seems completely emotionally detached from all of them, although some would naturally be seen as sad, frightening, or sometimes joyful.

Mr. C. describes three sightings that he has observed in a very short period of time. The first one is an apparition of the Virgin Mary, hovering above the trees near his house. The second one is a 15-meter-tall man, that looks like a Greek god, that he observes in broad daylight while he is driving through the countryside. The third observation is of a man who flies out of a spaceship. Mr. C. tells us he knows that these experiences are strange, but that he does not feel any emotions in particular, and that in the moment where he saw them he assumed that he was just “tired.”⁷

The lack of emotion in speech can be understood in the light of the work of Pierre Marty (1967) and Claude Smadja (2001) about psychosomatic disorders and what they called “operational thinking.” Marty and De M’Uzan (1994) suggest that people who use operational thinking list facts without necessarily relating them to emotions or affectivity. People who think in an operational way are not connected to their emotions and every life event is on the same “level” for them. They do not seem to be moved by situations and do not seem to make choices out of desire, but rather out of respect for the societal norm. Smadja (2001) also suggests that psychosomatic patients have a particular transference exchange that impairs their ability to adapt an appropriate emotional approach to the relationship concerned: “*the patient is present, but empty*” (p. 194). The same thing seems to happen with some of our cases with a very particular transference dynamic. Indeed, at the end of the conversations, we sometimes had a tendency to feel empty, as if surrounded by a “big white screen.” This feeling can be very unpleasant, and has the tendency to shut down the investigator’s ability to “think” about the experience. Thus, some UFO sightings and alien abductions seem to induce a mechanism to suppress thoughts, maybe to protect the psyche from negative emotions. Marty and De M’Uzan

⁷ The cases of M.C., the previous one (Mrs. T.), and the next one (Mrs. A.) could also lead to a diagnosis of psychosis because of emotional detachment and behaviors associated with the experience that may seem strange (to not feel worried, resume usual tasks in the immediate aftermath, etc.). As we progressed in our interviews, Mr. C’s case clearly appeared to us to involve psychosis. However, it was necessary to conduct several interviews before having enough evidence to support this differential diagnosis, which again shows the importance of conducting several interviews in the context of this type of work. The cases of Mrs. T. and Mrs. A. (see below) revealed nothing in favor of a psychotic structure and thus illustrate the idea of an operational functioning for some of the people who consult us.

(1994) suggest that operational thinking “sidesteps” phantasmatic activity, and that impulses can return in the form of somatization. With our own patients, their inability to symbolize an unmanageable situation returns unconsciously in the form of a UFO or abduction.

Operational thinking is one of the three symptoms described in psychosomatic patients to account for the operational life (Smadja, 2001; Marty, 1967). The other two symptoms, “essential depression” and “operational behaviors,” also appear to be part of the clinical picture seen in some of UFO and abduction cases. Kaswin-Bonnefond (2004) defines “essential depression” as “*a psychological state without a manifest expression of suffering; moreover, the emergence of a somatic impairment causes a psychological improvement*” (p. 1331). Ksensée (2004) adds that people suffering from essential depression cannot explain the reason behind their depression and express only a few emotions. These elements coincide perfectly with the narratives of UFO observations, since they seem to allow an improvement in self-esteem and the avoidance of depressive affects, as illustrated in the case below:

Mrs. A. and her husband come back home after a dinner with friends. It's about midnight when her husband goes to bed and Mrs. A. gets busy with household chores. She goes into the garden to spread her laundry. At this moment, she observes a “huge triangular vessel” that is gradually approaching her. It stops a few hundred meters from her, and she suddenly feels “thrown on board” thanks to what she describes as “a magnifying effect.” She sees women wandering, “prisoners of the ship,” and who, according to her, are very sad. She also communicates telepathically with famous people on board. She then finds herself again in her garden and decides to go home and set the table for the next day. Since then, she has been constantly thinking about the experience for which “she was chosen” and which she only wants to share with people who will not deny it.

This clinical case highlights two of the aspects that we can link to operational thinking. First, Mrs. A. goes back to completely normal activities after a very unique experience. She therefore seems to do things because “that is what is expected of her,” without any personal purpose. The fact that she sees sad women wondering aboard the “spaceship” could also resonate with how she feels. Secondly, she only wants to talk to people who will have a particular interest in her experience, and who will not try to “take it away from her.” Marty and colleagues (2001) suggest that in psychosomatic disorders, the medical institution takes the role of a maternal function which can offer the patient a possibility of psychological reorganization. Witnesses of UFO sightings or subjects describing abductions also turn to institutions such as the GEIPAN or CIRCEE, looking for experts who will be able to “take care of them” and to take their experiences into consideration.

Marty and De M’Uzan (1994) also suggest that patients with operational functioning exhibit behavior that is very close to their cultural references, but this conduct is meaningless to them. Their identifications remain superficial, with norms that are imposed on them by society as a whole. For both authors, the superego of their operational patients is “*schematic, apparently not integrated*” (p. 201). We can also make connections here with several cases in which the persons often tell us that, immediately after an “incredible experience,” they resume their daily tasks, such as Mrs. A, but also a man who explained to us that he put an end to his sighting of the “spaceship” because “it was time to eat.” These behaviors seem almost absurd after such an

intense and strange experience. The hypothesis of a trauma-related dissociation⁸ remains valid, but in view of the other elements, the hypothesis of operational functioning deserves to be studied more closely.

In concluding this section, we can therefore say that some people reporting UFO sightings or extraterrestrial abductions may present a particular psychological profile different from the ones commonly found with exceptional experiences. Instead of Fantasy Prone Personalities, we encounter operational functioning, so people through their observation seek a psychological solution so that their experience can make sense. As they suffer from the inability to symbolize, these people tend to project psychological contents outside the psyche: in psychosomatic patients, these contents will be projected into their bodies, and in our patients, they are projected into a UFO.

Aliens and fantasy about the origins of humanity

In this last part of the chapter, we would like to propose a study of UFO sightings and alien abductions with a more anthropological point of view. We can start with this questioning: why do some people, especially since 1947 and the testimony of Kenneth Arnold, think they have been in contact with an alien life form? In 1961, Carl Gustave Jung proposed an answer: *“But if there is psychological projection, there must be, for this to happen, a psychological cause [...] The origin of such rumors is an affective tension resulting from a situation of collective distress, which can either result from collective danger or from a vital necessity of the soul”* (p. 40). Jung proposes more precisely that UFO sightings might reflect the fear in the population about the Cold War and “traumatic remains” of the two world wars. At present, we are noticing a significant increase in the number of UFO sightings and a growing interest in this topic in the media,⁹ which makes us believe that certain latent anguishes in our society come to be expressed through these experiences. Indeed, Maleval & Charraud (2003) describe cases of people who say they have received messages from aliens, often related to the societal concerns of the moment: ecology, war, nuclear energy, etc. We have also encountered a case where the person told us that UFOs were visible from his home because “they” came to monitor the proper functioning of the nuclear power plant near his home. Beyond this first sociological hypothesis, we can also approach “extraterrestrial experiences” as the metaphor of the question of origins as illustrated with the next case:

Three friends drive home from a game night around midnight. On the road that leads through the forest, the driver points out to his passengers a “black mass, which slowly flies over the trees.” Mrs. B. describes a “huge dark flying saucer, with lights of different colors flashing underneath it.” Mrs. B. wants to stop and observe the UFO, but she gives up because the driver is too scared. Mrs. B. expresses disappointment that she was not able to fully experience her UFO observation because of the driver. Since then, she regularly scrutinizes the sky and confesses that she hopes to see “the spaceship” again, and even to be taken away by “those” who are on board. She later says she does not know what forms these “beings” might have. Therefore, she uses the word “dust.” This term, in view of other elements of the case, unconsciously echoes God’s creation of man in the Bible. “The Lord God made man out of the dust of the earth” (Genesis 2:7), or the more famous formula when God drives Adam out of heaven “you are dust and you will return to

⁸ Dissociation is a process in which a person disconnects from his thoughts, feelings, memories, behaviors, physical sensations, or sense of identity.

⁹ See for example the revealed files of the Pentagon.

dust” (Genesis 3:19). This idea in our culture that dust is the origin of life is thus found in her speech, but she also hypothesizes that aliens come to “watch over their creation.”

Today’s Western society tends to constantly measure, classify, compartmentalize and explain the world in a rational and scientific way. In this context, the usefulness of asking existential questions is being challenged. Indeed, these unanswered questions, for which doubt will always exist, may no longer find attentive ears. These questions could then manifest themselves in exceptional experiences, where the observation of an extraterrestrial spacecraft can allow a metaphorical answer to existential questioning (Why do I exist? What is the meaning of life? etc.).

This hypothesis is also illustrated in science-fiction and especially in two movies directed by Ridley Scott: “Prometheus” (2012) and “Alien Covenant” (2017). These films offer a new vision of the origins of life, its meaning, the roles we hold during our lifetimes, and the existential anguish about death. This questioning about the origins of humankind, and of the individual, is universal, thus placing it at the heart of the structure of our identity (Bretonnière-Fraysse, 2006). Religions provide answers to this fundamental question, but their revelations no longer seem to satisfy many Westerners. Thus, it seems that the overflow of uncertainty about the origins of our existence is transformed into a threshold of excitement which could then come into being in the vision of an “alien-craft,” perhaps of a “*mother ship*,” thereby mixing “scientific” elements and traditional religious beliefs. For example, this relationship to the question of origins manifests itself in a comparable way to the apparitions of the Virgin Mary and by extension the symbol of the mother in the Catholic religion. Moreover, a fusion between theology and ufology has been developed recently, with the idea that the apparitions of the Virgin Mary were in fact alien apparitions (Seval, 2007). From this point of view, “UFO experiences” could be considered as new “myths” that provide cultural material for reflecting on the question of origins. It is possible that other cultural and sociological issues could also contribute to the development of this type of myth in our culture. Jung (1961), for example, emphasized the fact that UFO sightings appeared in the post-war period, and more specifically during the Cold War, and that they could thus represent a kind of metaphorical representation of the collective fear of a specific threat, especially in the form of a nuclear war (in this case, supposed “extraterrestrials” thus represent a potential threat to humankind, especially if they are credited with a considerable technological advantage). Further research into these perspectives is necessary, but we can note that the current increasing enthusiasm for this topic,¹⁰ and the large number of sightings and abductions that are being discussed in the media, could also fit into this sociological and anthropological analysis. In this sense, these observations could thus represent a form of “solution” to different forms of existential anguish, and also to the anguish related to the social climate today and the anxiety it generates. This anxiety seems to have been catalyzed over the past two years by the COVID pandemic, and also more recently by the Russian-Ukrainian conflict, which re-actualizes certain fears concerning the threat of a nuclear war.

¹⁰ See for example Pentagon UAP files revealed in June 2021.

Conclusion

As stated above “a UFO alone does not exist,” it is necessarily part of one’s subjectivity. We must take this point into account in order to understand the emergence, the causes, and the meanings of exceptional experiences. This postulate leads us to use methods of micro-analysis in our interviews in order to obtain a narrative which is as close as possible to the experience as “lived” by the subject. The narratives of UFO sightings and abductions that we obtain give us the possibility to study these experiences from the angle of the paranormal solution, allowing us to understand how some of them are related to non-symbolized traumatic experiences. We have also identified an operational way of thinking among some of our patients, as described in the psychosomatic approach. Further work will aim to support this complex hypothesis, since the accounts of extraterrestrial experiences are found in all psychological structures, whether they are neurotic, psychotic, or other, and will require us to focus more specifically on notions in psychopathology so that we can then seek to understand more specifically the differences in the narratives of experiences according to the different structures. A more anthropological perspective allows us to study the role of this type of experience in western society and leads us to consider extraterrestrial experiences as a new myth to answer the question of origin and primal anguish.

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Manuel Jimenez and the Perception of UFOs: Hypotheses and Experiments

Claude Maugé

Abstract: Five types of contributions about the perception of UFOs by psychologist Manuel Jimenez are presented, particularly from his thesis in psychology: participations in case investigations; a sociological survey about the basic attitudes on UFOs in the general population; experiments about the perception of UFO-like luminous stimuli; general considerations about visual perception; and their application to the perception of UFOs/IFOs, in particular a series of hypotheses about the role of UFO cognitive schemas and their verification using various files of UFOs or IFOs. Basically, the main idea is that, in the matter of IFO witnessing (but also more generally), the perceptual error appears when the top-down cognitive processes outdo the bottom-up sensory data.

Keywords: Cognitive schema of UFO, Perception of distance, GEPAN, IFO, Manuel Jimenez, UFO, Visual perception

Introduction

First, a word of caution: the texts presented here date from a few decades ago; several data are still relevant, but it is clear that others can be out-of-date. Manuel Jimenez [hereafter J] is a cognitivist who taught psychology at the University Montpellier-III Paul Valéry; he had worked with (and for) GEPAN¹ at the end of the 70s and during the 80s. He contributed to some ten GEPAN's *Notes Techniques*, in four basic directions: treatment of information in two of them; participation to several case investigations (following section); a sociological survey with Philippe Besse (next section); and a synthesis about the psychology of perception in *Note Technique N° 10*, which is based on experiments by him and on theoretical views. These views will be later expanded on in J's thesis in psychology in 1994, again with theory and experiments but also with a direct application to the perception of pre-UFOs², and in a little book for the general public. *Except if another source is noted, all page numbers refer to the thesis: [Jimenez, 1994]*

Jimenez and the Case Investigations in GEPAN's *Notes Techniques*

The following six French cases are given in chronological order, with: Basic facts. J's contribution (in the source, explicit only for cases 1 and 4). GEPAN's verdict. Positions outside GEPAN (cases 4 to 6). [Sources.]

March 11, 1979, Saint-Marcel (Ain). Intense light observed by several witnesses, sound, death of

1 GEPAN, *Groupe d'Études des Phénomènes Aérospatiaux Non Identifiés*, is an official French body created in 1977 within the *Centre National d'Études Spatiales* (CNES); it will later become SEPRA, and finally GEIPAN, its present name, where "I" stands for Information.

2 The present author uses the following terms. Pre-UFO ~ UFO/IFO ~ UFO in Condon's sense: not identified by the witness or labelled "UFO" by any other person; quasi-UFO ~ UFO in Hynek's sense ~ rank "D" by GEPAN: not identified after a (presumed) good investigation; true-UFO: (hypothetical) stimulus *really* (not only in words) outside the current scientific paradigm; IFO = false-UFO: stimulus having an identified conventional cause. As for GEPAN, it uses the acronym "PAN" = *Phénomène aérospatial non identifié* = Unidentified Aerospace Phenomenon (~ UAP) instead of UFO and gives cases the marks: A = plainly identified, B = probably identified, C = impossible to evaluate, D = unidentified.

many fish in a fish farm. J compares the accounts of the six main witnesses in a table giving for each several parameters (hour, duration, sound, features of the light, etc.) and separating what had been said to the gendarmes and later to the GEPAN; the testimonies are coherent, except for one which has some differences, probably due to the influence of ufologists who had intervened between the gendarmes and the GEPAN. Electrical disturbance in an old 10-kV line just above the pond, confirmed by the specialists of EDF, the national power company. [Ebers *et al.*; Jimenez (1981), pp. 50-58.]

Nov. 7, 1979, *Marcols-les-Eaux area (Ardèche)*. Luminous phenomenon, car problems, loss of any space and time notions, the witness recovers his consciousness in another place; hypnosis by a member of IMSA³ reveals an abduction with travel above France. Probably a hallucination triggered by the Moon and due to Cimetidine, a drug used by the witness, and later an artifact of poor hypnosis. [Audrerie *et al.*; Maugé; Roussel, pp. 117-124.]

Nov. 26, 1979, *Cergy-Pontoise (Val d'Oise)*. Franck Fontaine's abduction followed by his return on December 3rd makes a stir in the French media (and elsewhere). The analysis of the discourse and the behavior of the three protagonists shows they speak spontaneously without any rigor as for the content (incoherencies, absurdities, lies, etc.) and that the picture they give for themselves with the help of the media and certain ufologists is far from the truth. Hoax according to the GEPAN (and most ufologists). [Esterle *et al.*; Caudron; Maugé.]

Nov. 27, 1979, *Porcieu-Amblagnieu (Isère)*. On this evening, "Rosine" (13) sees something she believes to be a UFO and then a rather vague figure; she had heard of the Cergy-Pontoise affair and is afraid of being abducted with her little brother and their mother who is to come home soon, so that she flees to a neighbor, who sees a vague light and is herself frightened; the object is said to have halted above a nearby fallow meadow, where a trace (crushed grass) is soon discovered; a few very secondary witnesses. For J, the psychological analysis of Rosine's account shows it is strongly subjective. GEPAN's conclusion is that the girl has seen something unusual; particularly, the analysis of the non-verbal data given by Rosine leads Jean-Pierre Rospars to think they can be trusted. For Rossoni *et al.*, an amalgam of three independent stimuli within two minutes could be possible. [Aguado *et al.*; Rossoni *et al.* pp. 283-295; Rospars, communication to the author.]

Jan. 26, 1981, *Laprade (Aude)*. Close sighting of a cigar-shaped object, failure of the car which will later have electrical problems, the cause of which is not discovered. The psychological analysis ends with: "the perception by obsessed people is said to be simultaneously rather objective, not leaving much room to the imagination, and very rigid, admitting novelty only with difficulty. These ideas plainly confirm our analysis." Coherent testimony, credible witness; no solution (physical nor psychological) is found, but nothing more can be said. Rossoni *et al.* suggest a military helicopter as a possibility. [Besse *et al.*, 1982; Rossoni *et al.*, pp. 317-325.]

Oct. 21, 1982, *Laxou (Meurthe-et-Moselle)*. Disk observed at 12:30 at a very close range; grass under the object stands up when it leaves, amaranth dried out. The witness seems reliable; his testimony is coherent. Unexplained. But several problems, at least one of them rather serious, are

3 *Institut Mondial des Sciences Avancées*, founded by Jimmy Guieu – author and group not among the most serious...

not considered by the investigators. [GEPAN; F. Lagarde, *Lumières dans la nuit*, No. 246-248; Rossoni *et al.*, pp. 326-349.]

The Survey “Draw a UFO for Me” (the phrase is figurative) [Besse & Jimenez, 1983]

In March 1982, 1195 inhabitants of the Haute-Garonne *département*⁴ were asked eleven questions prepared by Philippe Besse and J. They worked with the postulate that in the Western culture everyone has a “mental representation of what a UFO is, that representation being particularly visual” [it will later be called a *UFO schema*]. Basically, the questions were the following. 1: sighting of a phenomenon/apparition that the person could not explain; 2: does the subject believe he/she will see a UFO some day; 3: (imaginary observation) how would that object be; 4: numerous people say they have seen a UFO, how do they describe it; 5: circumstances of the observation imagined in 3; 6: interest in the subject of UFOs; 7: if he/she sees something, would he/she mention it, and to whom; 8: will science explain the UFO phenomenon; 9: does it contradict religion; 10: had the subject read or seen something on TV about UFOs; 11: how the subject explains UFOs.

The answers were studied by factor analysis, and some were compared to previous surveys. It shows three (or even four) types of behavior. The “*UFOphobes*” will see no UFO, have no interest nor explanation for them, have seen or read nothing about the subject, and generally do not answer the descriptive questions. The *skeptics* (often 30-50 years old) give various mundane explanations and describe UFOs as a luminous star. The *indecisive persons* (more or less the general tendency) see a UFO as round, red, silent, moving in a straight line; skeptics and indecisive people, not easily separated, will perhaps see a UFO and consider the subject as moderately important. The “*UFOphiles*” (young and informed people) will surely see a UFO and even want to see one, the subject is very important, UFOs are unknown natural phenomena or extraterrestrial devices, and they are disc- or cigar-shaped. (See the sixth section for other elements from a later analysis of the same data.)

The Experiments Made by Jimenez (labels “Experiment A”, “First experiment”, etc., are his)

The six experiments presented in the *Note Technique N° 10* [Jimenez, 1981, for this subsection].

Experiment A. It aims to determine what clues we use for evaluating a distance: intrinsic (linked to the perception of the stimulus), extrinsic (linked to the environment), or subjective. At the *Paris Air Show*⁵ in June 1981, the stand of GEPAN at the CNES pavilion offered seven photographs of ambiguous luminous stimuli, and the visitors could answer a few questions (J admits it’s not a scientific procedure). The following indications are given below: a) Description of the picture; b) Question; c) Results (266 useful answers; as for the following experiments: E = experimental group, e = value of its answer; N = neutral group, n = corresponding value); d) True answer and comments for the visitors; e) Possible theoretical comments.

Pictures A, B. a) Two similar luminous phenomena at the same distance in the landscape, A with a hilly background, B in the sky. b) “What picture seems to you to be closer to the photographer?” c) A at 70.3%; e < n not significant. d) A; “generally speaking, an unknown luminous phenomenon in the sky gives the impression to be farther than when passing before an

4 A possible bias is not considered by the authors, namely the presence in Toulouse of the GEPAN and of major aeronautical and space industries which could have influenced the inhabitants of the Toulouse area about the UFO question via the media. The extrapolation of the results to the French population is thus perhaps not assured.

5 *Salon international de l’aéronautique et de l’espace de Paris-Le Bourget.*

obstacle.” e) Extrinsic clues (the perceptual surroundings) are used.

C. a) Luminous phenomenon above a stopped car in a hilly landscape. b) Choose the distance among: about 10, 100, 500 m, several km. c) The farther the distance, the more numerous choices (km+: 37.6 %). d) Some 100 m; “*the distance of a luminous object is often assimilated to the one of the nearest obstacle in the same direction.*”

D, E. a) Two similar luminous objects in the sky, E is smaller than D. b) Which appears to be farther? c) Stimulus E: 65.9 %; $e > n$, significant. d) Same distance; “an unknown luminous phenomenon generally appears to be closer if its apparent size is bigger.” e) The subject apparently thinks that the two pictures represent two phenomena having the same real size.

F, G. a) Two luminous phenomena “rather complex and ambiguous.” b) “In your opinion, what does [each] photo represent?” c) F: 60.5% known phenomenon, 19.4% “UFO”; G: only one answer “UFO”. d) F: lenticular cloud at setting sun, G: very close helicopter with all lights on; it’s very difficult to correctly evaluate the size, distance, and speed of an unknown light.

Taken globally, the results fit “the hypothesis that the attitude of the witness, and particularly the meaning he/she gives to a stimulus, are pertinent in order to understand the physical features described in the account. [... And with] the hypothesis that the subject evaluates the distance by using clues which are not the ones of the true distance” but are linked to his/her attitude [p. 71].

Experiment B (20 subjects). It directly tests J’s hypothesis that the descriptions by the witnesses having “UFO expectations” and thus naming the perceived stimulus a “UFO” present more distortions than these by other people. With three slides similar to those of experiment A, the subject must say what he/she sees: those who answer “a UFO” or the like make group E, the others make group N; the other questions deal with the position of the object relative to the landscape, the real distance, and the size of the phenomenon; no intrinsic clues are available. The results fit the hypothesis (a specific case of that is in the final paragraph of this paper) that “when a subject has expectations about the UFO phenomenon and actualizes them [here by the mere idea: “it’s a UFO” or “it’s probably a UFO”] when perceiving a PAN⁶ [UAP] its description is probably affected by a distortion of the features of the stimulus” – but the only really significant effect is that the angular size tends to be underestimated [p. 76].

Experiment C (N = 18, E = 31 subjects). It’s similar to B but with three differences: the UFO expectation is introduced by the use of the word “UFO” by the experimenter, the stimulus is the lenticular cloud of A, and its free description is asked somewhat later. The slide is presented for 10 seconds, a duration that allows seeing many features.⁷ The results confirm what was expected: the UFO expectations, here due to the experimenter, “are related to a particular naming of the sighted phenomenon and to a significant increase of the distortions in its description” (E: significantly more label “UFO” and wrong features than in N). This shows again that a witness having expectations about UFOs will give a more subjective account than a neutral witness [p. 80].

Experiment D (N = same group as above, E = 38). The procedure is the same as for C, except that for the group E the name “UFO” is introduced during the request for a description. As for C, there are significantly more “UFO” labels and more erroneous elements in the descriptions by

⁶ See Footnote #2.

⁷ For instance: Paul Fraisse, “Mémoire de dessins et de phrases en fonction de la durée de présentation,” *Année Psychologique*, 1974, 74, pp. 145-156.

the members of E than of N. J concludes that leading questions are to be banished during a field investigation and that it is important to learn during the investigation what was said during previous discussions by the witness with various people, including journalists and ufologists. Moreover, the comparison of the results of C and D suggests that the effect of pieces of information about UFOs does not depend on the moment where the witness receives them, before or after the sighting.⁸

Experiment E (N = 34, E = 10). One can think that the conditions of experiments C and E (short duration, distracting movie) may have some effect on the results and that there would be no difference between the two groups with optimal sighting conditions. Thus, this preliminary experiment, with the same procedure as for C, except that the picture remains visible during the account that immediately follows the presentation (N: “this slide,” E: “this slide of a UFO”). However, the results alone are interpretable only with difficulty. J notes that in experiments C to E, the influence of the “denomination” variable is not perfect: subjects from group N use the term “UFO,” subjects in group E don’t use it, and this fact is important because it shows that the witness him/herself too can internalize pieces of ufological information. Thus, the three experiments largely fit J’s general hypothesis that “relates the expectancies (as indicated through the chosen denomination) to the distortions (measured by the erroneous elements)” [p. 87].

Experiment F (two tenth-grade classes, N = 33, E = 34). The slide of the lenticular cloud is shown for 15 seconds, then the students have to write what they saw. One of them exclaims immediately “Wow! A UFO!” so his class is group E; it gives more denominations “UFO” than the other (UFO: n = 6, e = 23 – that is n = 18%, e = 68%; non-UFO naming: n = 27, e = 11). J comments that one has to be careful about influences among the witnesses to the same event.

GEPAN’s Document de travail N° 6 [Jimenez, 1982.]

J presents here an experiment that formalizes his experiment A above, with 12 subjects who are asked to say if the luminous shape seems to be very distant, distant, nearby or very nearby. The results are equivalent to others already obtained: a luminous figure seems to be closer when it is bigger and lower in the sky. J also considers three multi-witnesses sightings as invoked experiments⁹: Dec. 2, 1978, Burgundy etc. (missile test, 36 witnesses); Nov. 11, 1980, southeast France (meteorite, 96 witnesses); and Dec. 25, 1980, western France [also in some other European countries] (launcher reentry, 132 witnesses). J’s hypothesis is that witnesses give more precise numerical features to the phenomenon as they give a more precise meaning to it. The independent variable is the denomination used; the dependent variables are the way (absolute, relative, none) of giving the size, distance, altitude, and speed. The more notable results are that there is a significant relationship between the denomination and a numerical estimate of size or altitude, but none with the distance or an altitude related to the environment.

The three experiments reported in the thesis [Jimenez, 1994].

First experiment (25 subjects). Slides show a somewhat blurred luminous circle having the angular size of the Moon above an open urban landscape (low wide building with flat roof); the two independent variables are the “distance to the horizon”—that is, from here to the building

8 This seems reasonable for “soft” cases but questionable for “hard” ones: if abductions (for instance) do exist, an abductee previously not really motivated by the phenomenon would be more sensitive to a reading or a TV show about abductions after his/her adventure than before it.

9 Invoked experiment: real previous event whose data are analyzed according to *a priori* hypotheses.

(12, 100, or 400 m)—and the angular height of the circle (1° , 6° , or 13°). For each of the nine slides, the subject must mark the distance to the circle (dependent variable) on a scale previously designed. Two analyses of variance show that when the stimulus is visually near the horizon, its distance is assimilated to the one to the horizon, and that this effect decreases as the object is higher in the sky [p. 104].

Second experiment (24 subjects). It is basically identical, but the stimulus can be higher in the sky (1° , 13° , and 35° above the horizon). The results confirm and extend the previous ones: the distance to the horizon can be taken into account even for stimuli rather high in the sky, but its influence decreases as the angular height increases. They nuance the classical view that “the apparent distance decreases with the angular height” obtained when no horizon is present, possibly because the subject “locates the luminous shape perceptively near the visually closest places: the horizon or the canopy of heaven” [p. 108].

Third experiment (98 subjects, but only 64 usable answers). It is designed for eliminating in part the previous artificial component of the situation by using a natural stimulus, the full Moon, while asking the subjects to forget its nature and to admit it could be some object at a variable distance. The experiment takes place in the streets of Toulouse or of neighboring villages, on the evening or the morning. The subjects are asked to say if the stimulus seems closer than the features of the landscape and how many times, where it would fall if it were close to fall, and what clues they used to answer the preceding questions; the incoherent answers or the answer “Moon” for the last question are removed from the study. The results for the two independent variables (distance and angular height) are bimodal, so that they are analyzed with two values each: near/far away (basically: urban/rural surroundings) and low/high (less or more than 5°). “Most answers place the stimulus at a distance similar to the one of the horizon. This relative distance appears to increase with the angular height when the horizon is far off” [p. 112], while there is no significant effect when the horizon is nearby. Moreover, the place of the fall appears to be farther than that of the object in the sky, except when the object is low in the sky and the horizon nearby [p. 113]. Therefore, when one neglects its identity, “a very distant stimulus such as the Moon can be perceived far closer than it is”; and, as previously, the distance to the horizon influences the perceived distance of a stimulus low in the sky, and that effect decreases as the object is higher [p. 113].

Theoretical Aspects of the Psychology of Perception

Because of space constraints, here are only a few of the useful elements (please refer to any textbook for a formal presentation). It is known that our perception (or our memory) does not work as its physical “equivalent”: it is linked to processes or factors related to memory, cognition, emotions, or culture, which has several consequences. It is a two-way process, with a bottom-up course of the sensory message from the receptors towards the brain *and* a top-down course of “processes of adaptation, selection, adjustment between the central nervous system and the sensory receptors.” Therefore, if our perception is generally accurate, this rule has many exceptions “because of some deception by the milieu or a wrong tendency (preparation¹⁰) by the

10 See particularly the model of Jerome S. Bruner (“On Perceptual Readiness,” *Psychological Review*, 1957, 64: pp. 123-152), for which the perception is a decision-making, probabilistic and dynamic process: basically an induction of a category by using certain (possibly variable) traits or clues defining it; taking into account the available clues, the necessity of the answer (compromise between safety and rapidity), and the cognitive accessibility of the category; and a continual up-and-down movement between the available clues and the

subject” who attributes a wrong meaning to the situation [Jimenez, 1981, p. 32]. Besides that, our perception is organized in three phases: the *sensory stage* “providing the elementary characteristics of the sensory field,” such as orientation, contrast, lines, color, movement, “patches,” etc.; the *figurative stage* which organizes the preceding features and links them to very general schemas, giving particularly the figure-background separation and where certain previous elements become “figures or ‘near-objects’” (illusory contours such as the Kanizsa’s triangles¹¹ can occur here); and the *cognitive stage*, where the previous “near-objects” are fully identified by an integration of all gathered elements, a stage where the context, data from the memory, and the culture and the psychology of the subject have a role; moreover, there are also between these stages *interactions* contributing to a better coherence [pp. 176-178].

The perception of relative or absolute distance (also called depth) uses several clues, many of which are linked to the source: luminance, angular size (cf. Experiment A), angular altitude (elevation), tendency to equidistance (two luminous shapes giving equal retinal sizes seems to be at the same distance), plus others for non-point stimuli. For *faraway luminous stimuli*, the main factors are the angular elevation and the presumed distance of the context (the horizon if the stimulus is low in the sky). In any case, *a faraway stimulus can be perceived far closer than its actual location* (cf. Third experiment); and *a stimulus rather low above the horizon is seen at the distance of that horizon* – but the higher is the light in the sky, the less its distance is related to the horizon [pp. 113-114]. On a general level, according to the circumstances, the integrated representation of a perceived object with its distance can be the matter mostly of one of the sensory, figurative, or cognitive phases, or of their interaction. And when the sensory data are poor or contradictory, wrong prevalent pieces of information based on intrinsic or cognitive factors lead to an error in the perceived distance. Particularly “an object in the half-light or during the night, in the atmosphere, on a window, in water, or which is evanescent gives a visual image which offers few intrinsic or contextual data” – for instance when pilots shoot at faraway islands or clouds, or even Venus, which are confused with airplanes¹² [pp. 94-95].

As for perceptual errors, each of the following factors can be sufficient, however it “appears and persists preferentially with the encounter of the following conditions: a vague or evanescent stimulus, strong and inadequate figurative schemas [for instance because of the incoherent features of the stimulus] and an urgent perceptual task [particularly if a rapid answer is needed]” – both latter conditions making the vague stimulus be perceived as significant [p. 184]. In Bruner’s model, the perceptual error is linked to a “failure of readiness,” when “the category the most accessible and compatible with the collected clues [is] inappropriate”; for instance, if the stimulus is too brief or too poor, when facing a new situation, or because of psychological features of the subject. Actually, the fact that the sensory data would be interpreted in the most coherent way can explain many perceptual mistakes; for instance, when one reads a word written with a fault without noticing it, or – and this is what can concern the ufologist – when “the identity attributed to the stimulus affects” its [perceived] color, luminosity, contours or shape [pp.

category leading toward a more precise diagnosis. Another model of perception interesting for the UFO matter lies in the Gestalt psychology with its concept of good shape such as the circle (e.g., two luminous points moving on an ellipse in the frontal plane are seen as moving on a slanted circle).

11 Cf. various atmospheric (re)entries where alleged solid objects are perceived by several witnesses.

12 Sociologist Robert L. Hall, who was very sympathetic to UFOs, briefly mentions that “I know from personal experience as a military flyer in wartime” that such mistakes can occur (in Carl Sagan & Thornton Page (eds.), *UFO’s – A Scientific Debate*, Norton, 1972, p. 221).

128-129].¹³

The Perception of Pre-UFOs (PANs for J)

General considerations.

J makes clear at the onset that his thesis is that “a UFO testimony is in most cases the outcome of a process of a perceptual misinterpretation of a known event.” He notes that, whatever the term used by the witness, he speaks about “UFO testimony,” which is “a psychological fact which can be understood without explanations dealing with the abnormal or the psychopathological”; and he defines a “‘UFO report’ or ‘case’ [as] the set of data, particularly of testimonies, which is related to a given phenomenon, apparently physical and defined by its spatio-temporal coordinates” [pp. 4, 5, 16 (note 9)]. The scientific and official sources (the only ones J chose to use) show that known UFO observers sociologically mirror the general population, however with in some measure a stronger interest in UFOs (which leads them to spontaneously report what they saw). And that “the UFO testimony appears as a phenomenon whose social extent and generality are important. It is moreover presented in reports and investigations, and that fact allows its observation, analysis, and description. It thus offers the conditions that allow it to be considered as an object of scientific study” [pp. 28-29].

J is otherwise not very pleased with the numerous private ufologists for whom the reported features of the pre-UFO (or even features which are “inferred by the investigator”) are automatically seen as those of the phenomenon, who use unreliable methods for obtaining data (directive questioning, hypnosis, selecting from a collection of drawings or photos), and often consider the UFO report as belonging to the quest toward proof of the ETH. We can also note that J mentions elsewhere that “ideological concepts such as morality or sincerity” have little interest for evaluating testimonies [Jimenez, 1981, p. 36]. For him, neither the “sociopsychological” hypotheses¹⁴ nor the ones involving rare more or less known natural phenomena (such as ball lightning) can explain certain cases: J therefore considers there is indeed an unexplained phenomenon, even if the relationship of UFO testimonies and IFO testimonies suggests that the same type of explanation might apply for both. In any case, the differences between the features of the phenomena which explain IFOs, and the descriptions made of them are a problem for psychology: “what is the process, perceptual, mnemonic or social, which is able to justify these distortions?” So, “as an object to be studied by psychology, the phenomenon examined in the present thesis is the IFO testimony, defined as ‘the fact that rather numerous persons observe in the sky mundane phenomena which they don’t recognize and which they describe mistakenly’” [pp. 52-53].

Perceptual errors and UFO testimonies.

Several mistakes can be linked to a process of social influence, particularly with the role of questions asked to the witness (see for instance the work of E. Loftus). Many are related to the

13 In his booklet *La psychologie de la perception*, J adopts a radical constructivist position, according to which “the nature of the reality [...] cannot be objective because it is constructed” [Jimenez, 1997, pp. 76-77]; as regards to perception, there is no more error (nor delusion) but “the result of the application of an inadequate or particular schema” – something which applies particularly to “the rare perceptions, from the manifestations of conjurors to the testimonies about UFOs” [ibid: pp. 80-83 and 87-88]. Such views probably make invalid many points of the thesis, at least in their wording.

14 His knowledge of them is apparently insubstantial.

perception itself; others are due to a transformation in the recollection. As for J, his thesis is: “*the fact that a notable number of people observe in the sky mundane phenomena which they don’t recognize and which they often describe erroneously is, in most cases, the result of a process of perceptual misinterpretation of a known event*” [italics by the reviewer]; and *one parameter has a major role in that process, the distance*: the testimonies of IFOs show that the reported distance is often very lower than the real one, and this underestimation seems to be linked either to the perceptual process or to an alteration of the memory [pp. 53-57].

For J, the following “*hypothetical*” scenario could explain the process of the IFO errors. “The IFO would appear in the [visual] field as a luminous phenomenon, vague and evanescent.¹⁵ Being luminous, it would trigger the perceptual process; being vague and evanescent, it would allow only weak or ambiguous elementary features. / The context would premobilize a figurative three-dimensional schema allowing for the integration of these weak or ambiguous elementary features into a figurative representation placing the stimulus at a given distance. / The witnesses would have at their disposal a cognitive UFO schema,¹⁶ coherent with the context of the observation, with its elementary characteristics, and with its figurative distance, and thus easily mobilizable. / Being in a situation of uncertainty, the witnesses would try to perceptively identify the stimulus; and in order to fit that task of identification, the cognitive stage would strongly mobilize the cognitive UFO schema, many features of which would assimilate the bottom-up figurative representations and would be present in the final objectal¹⁷ representation. / This scenario is highly speculative, but several of its assertions can be turned into theoretically plausible predictions” [pp. 188-189].

Predictions (hypotheses), which J presents as follows.

“The presented thesis is that IFO testimony is the result of an erroneous perceptual representation of a mundane stimulus. That thesis implies several general hypotheses:

- The witnesses generally have at their disposal cognitive UFO schemas having objectal, spatial and contextual features (hypothesis 1).¹⁸
- The observed stimuli are in most cases vague and evanescent (hypothesis 2).
- These stimuli are observed in contexts compatible with the UFO schemas (hypothesis 3.1). At the sensory level, the elementary features created from these stimuli are compatible with the UFO schemas (hypothesis 3.2).
- Particularly in the figurative stage, these features facilitate an organization of the stimulus with a depth (hypothesis 4.1), in a manner coherent with the cognitive UFO schemas (hypothesis 4.2).
- In the cognitive stage, the witnesses try to identify the stimulus rather to describe it (hypothesis 5.1). The more devoted to the identification is the perceptual task, the more the cognitive schemas mobilized for that identification are determining in the construction of an objectal representation of the stimulus which is both precise and generally erroneous (hypothesis 5.2).
- For identifying the stimulus, the witnesses mobilize preferentially the cognitive UFO schemas which are already premobilized by the figurative organizations with a depth and by the context. Therefore: the more the UFO schemas were premobilized, the more the perceptive task is devoted to identification and the more these schemas are determining in the construction of an objectal representation of the stimulus (hypothesis 6).”

15 Not always. J will admit in his final conclusions that this vagueness/evanescence is not necessary.

16 Roughly, the idea that a person has of a UFO.

17 Objectal: pertaining to the image in the brain of the observed object.

18 But in 1947? Was the interest of the media in the Arnold affair enough?

Besides these hypotheses, J summons up also three “ad hoc interpretations” named a, b and c, that is that the UFO schemas are according to the witnesses: (a) similar but more or less mobilized; (b) different; or (c) more or less constructed and precise [pp. 189-190].

Confrontation of the Hypotheses to the Empirical Data (J uses here various works¹⁹)

a) H2: “*The observed stimulus is in most cases vague and evanescent,*” either by itself or because of unfavorable sighting conditions (brevity, distance, night, atmospheric conditions). H2 appears implicitly confirmed [pp. 194-195].

b) H4.1: “*The elementary features created by the IFO stimulus facilitate their relationship with the perceived distance.*” We have seen that a faraway or very faraway stimulus (the Moon) can be perceived as rather close to the witness; if it is supposed that “the IFO testimony can be the result of an erroneous perceptual representation, then the apparent nearby distance of an IFO should be determined by the intrinsic and contextual factors” mentioned above about the perception of distance (luminance, angular size and height, apparent distance of the horizon). As a matter of fact, the statistical analysis of F7’ [Remember: the meaning of the codes Fx for the files used by J is given in footnote 19], of the 90 cases from that file for which the source is a star or a planet, of F1, F2, and F4 actually points in that direction. The general tendency is that “the apparent distance of an IFO stimulus increases with its elevation. This distance is often reported by reference to features of the landscape, but that reference decreases when the angular altitude of the stimulus increases. These results are coherent with the general conclusions [... about the perception of distance]: a luminous stimulus easily appears at a distance relatively close to its observer, that distance is related to the elevation of the stimulus and to the assumed distance of the horizon it overhangs” – what confirms H4.1 but implies the role of top-down schemas, including the supposed identity (cf. H5.2 and H6) [pp. 195-202].

c) H1: “*The witnesses generally have at their disposal cognitive UFO schemas having objectal, spatial and contextual features.*” As it is impossible to know the a priori UFO schema of the witness, J starts with the postulate that pre-UFO witnesses and persons who would testify if seeing a pre-UFO do not seem to be different from the general population for their psychosocial features (see above in General considerations). He then tries to show that “cognitive UFO schema [are] largely widespread in our society” (see below for that matter), a schema possibly diversified according to the individuals – by admitting moreover “the additional hypothesis that the answers to a questionnaire reflect without major distortions the individual representations or mental images, which would themselves be close to the general schema” in the population [pp. 202-205]. J uses for that task the survey F8 by Besse and himself, by analyzing the answers to questions N° 3 (situation of an imaginary observation: how would a pre-UFO be that the witness could see someday), 4 (how other witnesses describe UFOs) and 5 (what would the

19 The case files of GEPAN used by J (coming from the *Gendarmerie nationale*) are of various natures, cover time periods which are not always specified, and are not clearly referenced. They are thus listed here by convenience by the increasing number of witnesses/testimonies (T) or persons (P); the following symbols are used: ‘: sub-file; A, B, C, D: value of the case for GEPAN, see footnote 2; NT: *Notes Techniques* of the GEPAN; [R]: natural or artificial atmospheric (re)entries, with date; if double number n/m T: n testimonies/m independent testimonies. The files are: F1: 68/56 T, [R] Feb. 21, 1978. // F2: 89/72 T, [R] Nov. 11, 1980; F2’: 39 T who have answered a questionnaire for GEPAN. // F3: 188 reports D, Besse in NT 4. // F4: 247/162 T, stars, planets & meteorites. // F5: 247 T, cases A & B, 1974-1979. // F6: 263 reports (~ 500 testimonies) D, 1974-1978. // F7: 499 reports, Besse in NT 13; F7’: 176 cases A & B. // F8: 1195 P, Besse & Jimenez in NT 15 (cf. third section). // F9: 1225 T, 18× [R with multiple witnesses], 1974-1990; F9’: 469 T [R] Nov. 5, 1990; F9” = F9 except F9’.

circumstances of the sighting imagined in 3 be). A factor analysis gives four groups whose main traits can be summarized as: (1) no answer; (2) precise answer, object with artificial detail, answers “saucer,” “rocket,” “engine,” “shrill” sound, closeness; (3) phenomenon faraway, high in the sky, elongated, rapid; (4) far less defined, with “round,” “luminous,” “straight trajectory.” These results “partially” fit H1: “certain persons have UFO objectal schemas, which are precisely defined by objectal, spatial and qualitative features” (groups 2 and 3); but “other people would not have UFO objectal schemas, while others” seem to have little constructed schemas (respectively groups 1 and 4) [pp. 205-213].

d) H3.1: “*The IFO stimuli are observed in contexts compatible with UFO schemas.*” In particular, “the context of the sighting must be similar to the one associated with these UFO schemas,” including for the date, hour, and meteorological conditions – one can suppose that their mentions in the gendarmerie reports are generally accurate; now this seems to fit rather well the same data in the imaginary observations in F8, what validates the hypothesis for these data [p. 214].

e) H3.2: “*The elementary features created from the IFO stimuli are compatible with the UFO schemas.*” As for the circumstances of the sighting, “certain descriptive features of the phenomenon don’t seem a priori subject to specific perceptual errors” to the extent that it can be admitted they are “strongly determined by the characteristics of the stimulation” (sensory stage): general shape, color, luminosity, duration. Now, “the general tendencies for the color, shape, luminosity, duration, and movement” of the IFOs in F4 are close to the same features in the answers to F8, which proves H3.2 for these tendencies [pp. 215-216].

f) H4.2: “*The features created by the IFO stimuli facilitate their organization with a depth, in a manner coherent with UFO schemas.*” The expressions of the distances and altitudes for the group (2) in c above can be interpreted as showing “an increase of the distance of the phenomenon with its altitude, an altitude that is generally correlated with the angular elevation” (cf. the link between distance and elevation noted in b). Which gives a partial validation for H4.2 – for which a better confirmation will appear below in i) [pp. 216-217].

g) H5.2: “*The more devoted to the identification is the perceptual task, the more the cognitive top-down schemas determine the construction of an objectal representation of the stimulus that is precise and erroneous*” – which J also expresses by: “hypothesis 5.2 expects that, facing a vague and evanescent stimulus, the more specific and precise the perceptual identification is, then the more detailed and erroneous the objectal perceptual representation is. This representation is mainly constructed thanks to the top-down cognitive schemas, mobilized by an identity coherent with the perceptual figurative organizations (hypotheses 3.1, 3.2, 4.1, and 4.2). In other words, the witness perceives what he/she identifies, because he/she must identify the unknown phenomenon as rapidly as possible²⁰ (hypothesis 5.1).” Many UFO testimonies seem motivated by the wish to know what was observed, which can have surprised the witness but that he/she could not identify; now “the lack of cognitive identification for a real-life event could produce in the subject a state of ‘imbalance’ (F. Heider, 1958) or of ‘cognitive dissonance’ (L. Festinger, 1957).” Moreover, “the feelings of strangeness, surprise, and worry must act during a perception as requirements for rapidity,” which demands more of an identification rather

20 This does not seem to be necessary in several pre-UFO situations.

than a description – and thus a lesser analysis of the stimulus and therefore more possibilities for mistakes (cf. above, Theoretical Aspects of the Psychology of Perception).

Also, “one can put forward the additional hypothesis that the broad and vague identifications during the testimony [cf. first terms in the following list] don’t indicate an accomplished perceptual identification, they express the failure of a precise overall identification.” The denomination given by the witness (seven ordered modalities were defined using an independent set of 134 testimonies: light, phenomenon, shape, object, machine, flying object, UFO) is then used as an intermediary variable as an “indicator of the degree of perceptual identification” (rather a description for the first labels in the list, rather an identification for the last ones). J moreover uses the fact that “certain features of the objectal representations are strongly determined in a bottom-up automatic way by the elementary characteristics” of the stimulus and thus are not erroneous in liminal perceptual situations, as in a general manner: two-dimensional location, temporal location, color, luminosity, shape, approximate angular or relative values of the size; now “the IFO testimonies generally give these characteristics appropriately.”²¹ On the contrary, “the spatial features, the real [that is, compared to real objects] size, speed, altitude and distance are a priori constructed at the meeting of figurative organizations with top-down schemas,” as are also the accessory details; these data “are often reported erroneously in IFO testimonies” and are those that J considers below. Besides, “using the additional hypothesis that the testimony conveys the perception of the observed phenomenon,²² the terms used to report its size, speed, altitude, and distance are considered as indicators of the perceived size, speed, altitude, and distance” and are thus used as operational variables. Now J confronts his hypotheses to the 1,225 accounts of F9 (these cases have between 11 and 467 witnesses) by using the variables of denomination, distance, altitude, size, speed, accessory detail (two modalities: yes/no), luminosity, interpretation (not reported, mundane according to the witness, not mundane), independence (or not) of the witnesses, cases (7 specific cases, in 4 groups) [pp. 217-225].

Three factor analyses for respectively F9, F9”, and F9’ give similar results; because of the importance of the events of Nov. 5, 1990,²³ here are only the latter. “The first [factorial] axis strongly opposes two sets of testimonies, analogous to these observed in both previous analyses [of F9 and F9”]: / The phenomena whose distance is not given, whose size is given in a relative manner, and which are named by weak terms – light, phenomenon, shape – and are given mundane interpretations. To a lesser extent, the distance, size, and interpretation are not made explicit, and no artificial details are reported. / The phenomena whose distance, altitude, size, and shape are strongly stated [... for instance when the distance is given in meters]. They are named by strong terms – machine, flying object, or UFO – and described with artificial details.” And it seems that the link of the “subsidiary variables, luminosity, and independence” with the descriptive variables is negligible. J concludes from these data that “as a global matter, the results of the three factor analyses largely reinforce hypothesis 5.2 in the observed sample: the precision of the descriptive features increases with the specificity of the denomination: object clearly identified → “precise perceptual representation assimilating the indistinct figurative

21 Um...

22 This is more a postulate than a hypothesis – it is in fact the (most often implicit) postulate of pro-UFO ufologists. Yet J had noted it is erroneous when later “interferences” “pollute” the account of the observer.

23 A major case for many French ufologists convinced that true-UFOs exist; but also for skeptical ufologists, for whom it was basically the reentry of a part of the launcher of the satellite *Gorizont 21*.

elements”; object badly identified → “very general or vague objectal representation,” and thus the use of general terms and “absent, imprecise or broad characteristics.” These last elements can be prudently interpreted by saying that “the vagueness in the perceptual identification of an IFO stimulus results from the mobilization of schemas that are themselves broad and imprecise” (ad hoc interpretation c above) [pp. 225-236].

A chi-square test (crossing of the modalities of the denomination with those of distance, altitude, presence or not of artificial details, size, speed, and interpretation) always leads to a strong link between the variables. “Globally, when the variable ‘denomination’ is becoming more specific, the reported features are first absent, then apparent or ordinal, then specified in a three-dimensional way. / Hypothesis 5.2 foresees that the level of success for the perceptual identification task determines the level of precision of all the perceived characteristics. In an operational manner, that hypothesis is expressed by a significant statistical relationship between the variable ‘denomination’ and the descriptive variables. The observed results largely verify that hypothesis. The presented hypotheses emphasize the integrative role of the identification, which explains the precision of the perceived features – more than it is explained by them.” J finally notes about the distance that “it would be risky, or even wrong, to say that proximity determines the identification of a UFO, or conversely” [pp. 236-242].

h) *H5.1: “In the cognitive stage, the witnesses try to identify the stimulus rather than describe it.”* J’s thesis is thus that “the perceptual error [...] is made more easily when the witness tries to globally identify the stimulus rather than when he/she examines it in order to know its features, that is when he/she describes it perceptively”; moreover, if the stimulus is “vague or evanescent, the task of a perceptual description can be necessary when the subject has no available cognitive schemas for clearly identifying that stimulus” (cf. g); and the presented hypotheses “foresee that the first concern of a UFO witness is to globally identify the observed phenomenon. It will be perceptively described only in cases where the identification task was not realized in a precise manner.”

In order to test the hypothesis and to know the witnesses’ reactions (possible role of surprise or worry), J uses F2’. While the results are to be nuanced because there are too few subjects, the factor analysis shows three distinct groups: (1) very weak denomination (cf. the seven-value scale in g), features not reported except for luminosity, rather faraway, neither curiosity nor surprise; (2) middle denomination, size given in a relative manner, low altitude; (3) strong denomination, distance, altitude, size, and speed all well-specified, interpretation as a strange phenomenon. J also draws four conclusions from his analysis: 1st) Strong coherence of the testimonies, which “reinforces the subsidiary hypothesis of the spontaneity of the declarations” of the witnesses to the gendarmes. 2nd) Strong positive correlation between the precision of the denominations and the one of the characteristics, which goes in the direction of H5.2. 3rd) The fact that “the witnesses use the term UFO more easily when they thought they had seen a strange phenomenon,” and thus that “*when the witness tries to identify the perceived phenomenon, the more precise that identification is, the more precise and erroneous is his perception*” [emphasis by J]. 4th) With 31 reactions of surprise and 20 of curiosity (plus one of fear), “everything happens as if, faced with an unknown stimulus, the more surprised witnesses are those who interpret and identify it more precisely, in one way or another. On the opposite side, the less surprised witnesses are those who reject mundane interpretations without replacing them with

other interpretations [...; thus] descriptive tasks leading to features whose generality and imprecision are determined by the vague or evanescent character of the stimulation” [pp. 342-351].

i) *H6: “The more the UFO schemas were premobilized, then the more the perceptive task is devoted to identification and the more these schemas are determinant in the construction of an objectal representation of the stimulus.”* A discussion using the results obtained with F9 and F8 leads J to note that “contrary to hypothesis 6, the survey shows ‘medium’ UFO schemas having broad and imprecise features while the sample of testimonies shows ‘medium’ schemas having similar features but which are not UFO schemas”; but also that, in both cases, “the factorial groups opposite to hypothesis 6 are situated between the extreme groups which go in its direction: the group with precise features and the group with features not reported or no answers.” As a consequence, J 1st) wonders if there are “several UFO schemas or rather several schemas of the observation of a UFO”; 2nd) thinks that several interviewees in F8 would have “described, not necessarily a UFO, but a phenomenon that certain persons could consider as a UFO or could name a UFO. If so, the ‘medium’ schemas shown by the survey are not UFO schemas, but schemas of the phenomenon that certain persons could call a UFO”; and 3rd) concludes that “the more precise the features are, the more specific the denominations” and that the weak denominations with broad and imprecise representations correspond to these “schemas of the phenomenon that certain persons could call a UFO.” Actually, “in the face of a vague or evanescent aerospace phenomenon, the witnesses would have and would mobilize objectal schemas more or less precise for the characteristics of rare phenomena that can be seen in the sky” [pp. 251-258].

j) *Synthesis of the results.* “Celestial stimuli that are at the source of IFO testimonies are usually vague or evanescent (hypothesis 2). Their apparent distance is often related to their angular elevation or reported in comparison to elements of the landscape, which would confirm that these stimuli create elementary features and figurative organizations which give them a depth (hypothesis 4.1). / Many people make explicit a UFO representation that has more or less numerous and precise details, particularly for the contextual and spatial characteristics; this supports the idea that they have a UFO schema at their disposal (hypothesis 1). Globally speaking, the visual elementary features due to an IFO stimulus, its apparent distance, and the context of its observation that are inferred from the testimonies are not contradictory with the general characteristics which appear in the indicators of the UFO schema (hypotheses 3.1, 3.2, 4.1, and 4.2). Thus, at the figurative stage, the organizations inferred from the elementary features, which include a situation with a depth in a specific context, would call for the UFO schema during the perceptual process. / The precision of the descriptive features of an IFO as they are reported in the testimonies increases with the specificity of its denomination, as if the action of the cognitive schemas would be all the more so intense since the perceptual task is devoted to an identification [rather than a description] (hypothesis 5.2). Especially, the witnesses perceive the phenomenon all the more precise (and all the more erroneous) since they try to identify it and since they identify it more precisely (hypothesis 5.1). / As for hypothesis 6, the more the perception is devoted to identifying the stimulus, the more the UFO schemas are mobilized and the more they determine the objectal representation. It is also expected that the UFO representations will be close to the content of the testimonies that give an identification to an IFO. The comparison of factorial tables has, at least in part, made invalid that hypothesis. A

sharper analysis of the results, based on the denominations accompanying the representations, allows an alternative interpretation that is in concordance with the hypothesis” (in terms of “schemas of the phenomenon that certain persons could call a UFO”) [p. 258].

k) *Discussion*. Of his three ad hoc interpretations, J retains the last one, which is that the UFO schemas are more or less constructed and precise according to the persons. He notes that “most hypotheses, theoretically justified [...] by what is known about visual perception in general], have not been invalidated by the observed results. But they were made operative in a rather loose way, which restricts their verification”; and that certain interpretations or operations, for instance for H6, are speculative [pp. 259-260]. As a conclusion, J writes that the above empirical confrontation goes toward the direction that IFO testimony is “the outcome of a process of perceptual misinterpretation. That process is a specific case of the perceptual error, whose main conditions are the encounter of weak sensory data and a cognitive schema which is coherent with these data, inadequate, but strongly mobilized by a pressing perceptual task. / When facing an IFO, the witness begins a task of perceptual identification that involves more or less precise cognitive schemas, which in turn allow him/her to construct a more or less detailed objectal representation and at the same time to identify it in a more or less specific way. It would seem that the mobilized schemas are exceedingly varied [...] / The conclusions of the present thesis focus on a whole set of relationships, the weakness of which is balanced by their general coherence [...] both with each other and with current theories]. / No precise conclusion or forecasting can thus be drawn from them” [pp. 261-262].

Three Related Questions

The origin of the UFO cognitive schemas. The sighting of a pre-UFO is not a daily experience, so that the UFO schemas cannot have an empirical origin. They come therefore from the news media and their images. But what can be their role, for instance regarding the fact that “the interest in a given matter goes generally with a search for information about it”? J then looks into the witnesses of F2; and in F8 (see above) into the answers to questions 7 (236 interviewees who would testify to a sighting); 6 and 10 (they are more interested and more informed, as are the 123 witnesses given by question 1); 3 to 5 (imaginary sighting), as well as into the crossing of the variable “information” with “the most discriminating descriptive variables (distance, altitude, size, speed, and artificial detail).” For him, “as a general rule, the results [...] show that there is a relation that is not negligible between the precision of the UFO schema as it is revealed by the survey or the testimonies and the interest in UFOs. The word UFO, used for naming what had been observed or what had been imagined as a very precise phenomenon, is also the word which names the subject of interest, of the readings and TV programs that one views. On the opposite side are those who reveal the most vague and imprecise schemas, who use the word UFO far less frequently, and who have the least interest in the phenomenon named UFO. If one transforms these concomitances into causal hypotheses in the line of the above theoretical positions, it is safe to think that the interest in UFOs and the search of information about them permit the construction of a cognitive schema of the physical features of that phenomenon and of its sighting conditions. The lesser this interest and this search for information is, the lesser precise, detailed, and accomplished is that schema.” That reinforces the idea that “there would not be UFO schemas with opposite characteristics,²⁴ but more or less precise schemas for rare

24 At least in a rather homogeneous country such as France; it could well be a different matter in rather other countries, for instance when comparing the situations in Brazil, France, and Japan.

phenomena that can be seen in the sky, corresponding to various degrees with the specificity of their identity,” from “lights” to “UFOs” [pp. 265-274].

Newspaper articles about UFOs offer “a source of information, and thus of potential pre-mobilization, which is rather independent of the a priori interest in the matter. One can thus put forward the hypothesis that the sightings, and therefore the testimonies, are not independent from the articles published in daily newspapers about UFOs.” The study of the time-lag between the daily number of cases and of articles during the French wave of UFO sightings in the fall 1954 and the time-lag between the monthly numbers in the three most important French daily journals during the period 1974-1980 goes actually in the direction of “the hypothesis that the publication of articles about UFOs in the newspapers pre-mobilizes the UFO schemas, which in turn eases the perception, and the testimony, of phenomena that are not understood by their observers.”²⁵ And among certain people, science-fiction can also have some role [pp. 274-277].

The case of IFOs other than atmospheric entries. J examines here the identified or probably identified cases of F5, by excluding multiple testimonies. The analysis concerns the variables denomination, distance, altitude, size, speed, artificial detail, and nature of the stimulus. It gives two clearly distinct groups: (1) planets, stars and satellites, which are named by weak terms and for which the only feature which can be reported is the elevation; (2) airplanes and helicopters, with rather strong terms (which can go as far as UFO) and well-specified features; plus (3) a third group, distinct but rather poorly specified, corresponding to balloons and atmospheric entries. J deducts from these results that they confirm the fact that “*the perception is the result of the irreducible encounter of bottom-up sensory data and of top-down cognitive schemas, and that the perceptual error appears when that meeting is completed at the disadvantage of certain fundamental features of the stimulus.*”²⁶ From J’s discussion emerge particularly, just as for the testimonies of atmospheric entries with multiple witnesses, the fact that “a more precise description for a richer stimulus [e.g., an airplane vs. a planet] does not mean a reduction of the perceptual error”; and that often “the observation of various known stimuli [...] leads to an erroneous perceptual representation because the witnesses mobilize inadequate cognitive schemas. As for the specific case of atmospheric entries, the richer and more specific these schemas are, the more detailed, precise and erroneous is the resulting perception. That generalization encompasses stimuli that are closer, and often less ambiguous, than the atmospheric entries.” Some hypotheses that were studied above thus appear to be no longer necessary, particularly H2 (vague or evanescent stimuli) [pp. 279-283].

Can the results obtained with IFOs be extrapolated to UFOs? Work using F3 and F7 shows that “whether the stimulus is identified later or not, the testimonies are distributed in the same way for the witnesses, the sighting conditions, the descriptions, and the reasons for the reporting.”²⁷ Thus, the question: is it the same thing for the nature of unidentified cases? (Their nature is not known, therefore neither is their a priori aspect). A factor analysis of F6 “shows relations similar to the ones obtained with IFO testimonies. Two or three groups of testimonies are observed, which are organized according to the precision of their description and denomination; the descriptions the phenomena have, with the terms used to name them, are similar to the ones

25 That is: one reads an article, then one looks at the sky, then one sees a pre-UFO (succession, not necessity).

26 Said otherwise: the cognitive processes outdo the sensory ones.

27 Indiscernibility for these features.

obtained with IFO testimonies. At most, the features and the most precise names are relatively more numerous than in the other samples studied.” However, it is difficult to go further (Besse had obtained comparable results when he tried to distinguish the “D” cases in F7). As a final matter, for J, “UFO testimonies remain, at that stage, testimonies of stimuli which are not identified,” even if certain ones can possibly be due to a perceptual error [pp. 284-286].

Conclusion.

As this paper is a presentation of J’s views, the crucial point of *Note Technique N° 10* (Jimenez, 1981) will be our conclusion. Here J tallies rather well with various elements of the thesis, but it was intended particularly for the GEPAN investigators, so J is clearer here (and also tackles the question of case studies). His main idea is that *the subjectivity affects the pre-UFO testimonies*, and that it will be more important, as the subject “knows” more about UFOs (or rather about what is said about them). It is thus necessary to take into account the positive or negative expectancies he/she can have about them and the influences that might have been exerted on him/her, particularly (but not only) by private UFO investigators. Therefore, his crucial hypothesis (which experiments A to F – and later his thesis – seem to validate): “*the probability that subjectivity plays a role in a testimony (proclivity to subjectivity) increases when pieces of information about the UFO phenomenon are actualized, by the witness or by his/her circle, before, during, or after his/her sighting of a PAN.*”

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Cognition and Memory Distortion behind UFO Testimonies

Subhash Meena and Surabhi Das

Abstract: The world revolves around innumerable theories and beliefs about entities no one has witnessed. These entities have remarkable relevance in science and history but that does not mean they are not myths—god, fantasies, aliens, wars, space, UFOs, and big bang theory—comes along with a testimony to defy the myths. A belief that is consistent with the theory only a few have seen or experienced leads to searching for the answers to testify to the belief which also gives birth to conspiracy theories, giving an alternative perspective to the findings. The cornerstone of this paper is to bring forth a succinct analysis about these esoteric entities by acknowledging various cognitive processes, biases, and memory distortions rationalizing sightings of unidentified flying objects (UFOs).

Keywords: Cognition, Memory, Distortion, Belief, Entities, Science, UFO, Psychology

Are We Ready?

Headway toward the advancement of science and philosophy is one of the mankind's colossal attainments. Scientific research and theories based on technology can record even the slightest moment that happens in the cosmos, the moment induces the hope to find something prodigious. However, being hopeful and curious does not fulfill the criteria of achievement; philosophers like Adryn Rudnyk believe we also have to be ready to accomplish it.

If extraterrestrials are real, then why haven't they already established communication with Earth? What could be the possible reason behind those brief sightings without an established communication? According to Adryn Rudnyk, mankind is not advanced enough to connect with the other side of the cosmos. Many are not ready to grapple with the truth that life can exist outside Earth, on some other planet, or maybe in the galaxy.

The fear of changing one's whole line of thinking resides in us and it might not be within reach of our present technologies to maneuver around those repercussions. The warning about the tactical risk for humanity if it favors approaching extraterrestrials with futuristic technologies and suspicious schemes has already been insinuated by astrophysicist Stephen Hawking. Considering the possible harm that could cause by connecting with extraterrestrials and investigating the evidence, it can be surmised that we are not equipped and prepared to explore the part of the galactic mystery that we have revolved around for ages. The lack of knowledge and preparedness can bring more evil and destruction to mankind.

Flying Saucers

An unidentified flying object (UFO), as the name suggests, is an aerial object that is not readily identifiable to the observer; some say that it is an illusion and others claim the actual presence of a UFO. Kenneth Arnold first sighted UFOs in 1947, when he claimed to see nine high-speed objects near Mount Rainier in Washington; that was when UFOs started getting called "flying saucers." From 1947 on, numerous theorists and researchers suspected the existence of extraterrestrial beings, an irrational belief about those extraterrestrial beings or alien contacts or visits in UFOs. Revolving around these beliefs, many private and governmental organizations

conducted investigations to unearth the mystery about the existence of aliens and aliens traveling in UFOs. The Pentagon recently released videos showing unidentified terrestrial aircraft, which prompted various explanations; speculation about alien spacecraft being one of the explanations that gave rise to media attention.

The curiosity rising from contemplating the theories can be elucidated by the term “*paranormal belief*,” which incorporates beliefs such as belief in psychic abilities; belief in powerful deities; belief in survival of the soul after death and the ability to communicate with the deceased; superstitious beliefs; belief that an organism can be hurt or healed through mental intentions; and belief that the earth is being visited by alien life forms. This term and belief system has been studied by anthropologists, parapsychologists, and psychologists. They have their own reasons for the explanation of why this happens. Anthropologists focus on the social and cultural functions these beliefs serve; parapsychologists do not rule out the possibility that psychic abilities maybe genuine; and psychologists are skeptical about the beliefs and assume that they rise from misguided and maladaptive behavior.

In a country like America, which claimed to spot UFOs the most, and according to history where UFOs were first spotted, UFOs have always been folklore. In America it became a “cultural phenomenon” where movie posters, comics, and advertisements started featuring UFOs. It can be assumed that the culture and folk tales raised paranormal belief among people, and they started believing that there is an actual entity that comes to Earth.

However, this assumption does not disprove the existence of UFOs, but rather states a perspective about what could be the possible reason behind such a mystery and conundrum which is giving rise to fascination among sociologists, anthropologists, historians, scientists, astronomical scientists, psychologists, and others.

Cognition Behind It

The first and foremost notion of cognition is a mental process and understanding through which humans think, perceive, and sense. Information processing is a cardinal element of cognition; it can be concrete or abstract, conscious or unconscious. Development of cognitive abilities is ceaseless, which means it keeps developing throughout life at different rates. Attention, perception, language, communication, illusion, and problem-solving are all parts of different cognitive activities. Due to the contorted nature of cognition, it becomes vulnerable to biases, illusions, and misinformation, which dilute how one perceives reality. Extreme distortion leads to phantoms and makes an unrealistic bubble around us.

Cognitive bias creates inexorable barriers which put limitations on apprehension. Having the wrong idea about reality acts as a substructure which supports further bias. Clouding memories and constructing a faux memory is the chief trait of the distortion. The most amusing fact about cognitive distortions is that they are global and ineluctable in nature, in other words each and every one of us experiences them whether we are aware of it or not. Individual differences play a crucial role in the variability and severity of experiences. Fantasy and fascination about extraterrestrials, their contact with the Earth, their intentions to invade the planet, sightings of UFOs, and alien abductions are all viewed as cognitive distortions and biases in psychology. Fascination about the mystical nature of UFOs gives birth to a lot of biases and theories.

Unidentified flying object (UFO) is an enigma that fascinates even psychologists; they might not actively participate in the field of research about the existence of extraterrestrials, but they palpably make it easier to understand the reason why people believe in UFOs. According to British psychologist Christopher C. French, “It is important to distinguish between the questions, ‘Do you believe aliens exist?’ and ‘Do you believe aliens ever visited the Earth?’” Many people who claimed to have seen a UFO will answer the first question “Yes,” but their answer to the second question will be “No.” They will explain why they said “Yes” to the first question by providing examples. Why does this happen? What is the reason behind it? It would not be wrong to assume that most of the sightings take place at night. It is possible that our perception is under the influence of our prior knowledge; like what happens with top-down influence, our brain perceives from previous knowledge and apprehends the next. It distorts perception in a way that the person might perceive cues that are not even there. The environment has limitless sensory experiences, top-down processing assists in detangling sensory experiences, making it easy to assess them quickly. It is now safe to say that even hard evidence such as photographs or radar signals can also be misinterpreted through top-down processing.

Supremacy of Environment

In the world there are lots of like-minded people and others with contrasting convictions. The influence of the thoughts of people with whom a person is surrounded is more than anticipated. Everyone, at least once in his lifetime, finds himself under the influence of his peers; this phenomenon is known as peer pressure. The predilection to belong and be accepted in society gives birth to peer pressure; choosing something a person wouldn’t do otherwise is the basic effect of peer pressure. It is common to start believing and lean toward the opinion or perspective of people around us; many patients with psychological issues come up with bizarre beliefs or thoughts, and during case studies it comes to the forefront that people around them have similar views on the particular subject matter.

The environment plays a salient role in developing belief systems; it would not be wrong to imply that it can also modify the belief about the presence of extraterrestrials in the cosmos; if an individual is surrounded by people with the same outlook, then the individual is more likely to be influenced by it rather than by the contrasting opinion. The media exert radical influence and elevate it to a higher level by publishing about UFOs or aliens on a public platform which develops a keen interest in the audience of “*cosmophiles*.” Making someone believe in a theory is easier when it comes from a comparably reliable source such as news anchors, editors, or reporters. The way the news is presented is the key to the belief system of the audience. If something is constantly reported, such as UFOs or aliens visiting the Earth, and there is no convincing explanation for the events, it makes the reader want more, as if there is a lot more than what they can see. It is hard to realize the intensity of preconditioning when there are others in agreement on the belief. Articles or news from reputed sources that do not disagree with one’s belief, help explain why the thought keeps lingering in our head.

One of the earliest alien abduction claims came to the forefront from a Brazilian farmer, who claimed that he was dragged into a spaceship by aliens and forced to engage in intercourse with a female alien who was making odd sounds throughout the act. Another case, which received media attention, was that of Betty and Barney Hill, who claimed to have seen a UFO while

driving, and they reached home two hours later than expected, without having any account of that time. It is hard to believe the authenticity of the claims, since there are no co-witnesses, so their accuracy is subject to doubt. Professor John Mack, psychiatrist at Harvard University, backed these claims by writing a book about alien abduction and he supported the belief that these are not a symptom of psychosis but very real experiences. Mack did not get much support for his conclusion due to lack of empirical evidence.

Reminiscences

Human memory is a complex process, the information from various events and environmental stimuli are stored in human memory. In other words, it's a stockpile of information that an individual has accumulated through experience. An explanation regarding memory distortions can unfold the cognition behind alien abduction claims and UFO sightings. Empirical evidence emphasizes defense mechanisms to suppress anxiety-provoking thoughts resulting from traumatic events. Dissociation from the traumatic event and engaging in abnormal integration of thoughts and feelings segregate the memories of traumatic events from the conscious. Individuals having dissociative thoughts sometimes draw false assumptions from stimuli in order to lose the actual memory of the traumatic event, which often leads to misinterpretation.

Research supports that memories of alien abduction can be an abstract representation of previous memory which was suppressed because of the anxiety-provoking nature of the memory, and it can also be related to false memory. At times under the influence of dissociation an individual tends to perceive sensory cues that are not accurate or not present in the scenario. This is called false memory. False memory can be explained in simpler words by recalling or remembering memories that a person has not experienced in the first place. Misinterpretation and misattribution are two major factors contributing to false memory, as an individual tends to misinterpret an event under stressful or complex situations; he might not be able to accurately perceive the stimuli under the circumstances, which leads to misattribution. The existing memory of former events can sometimes interfere with the formation of present-day memory, promoting a false impression of the current event.

Glimpses of UFOs, claims of alien abduction, or surmising the existence of extraterrestrials can be chalked up to false memory. Lack of evidence of these testimonies makes it comprehensible that the rise of inexorable circumstances or emotions leads to false memory of seeing UFOs and memories of alien abduction. The chances are low that the person experiencing false memory is actually experiencing the phenomenon. Previous studies affirm that locus of emotion contributes to the formation of current memory. Having curiosity about or interest in a particular topic or thing tends toward formation of memory involving the topic of interest if there is a familiar object or stimulus in the environment. The pre-existing idiosyncrasy about UFOs facilitates arousal whenever there is something even slightly resembling a UFO-like object in the skies, leading one to take it for an actual UFO.

Cosmic absorption accelerates automatic thoughts as a part of a cognitive process which is an elucidation of the belief that an extraterrestrial entity exists. Being engrossed in mental imagery and fantasies immensely correlates with fantasy-prone personality. Persisting with the absorption about prodigious happenings in outer space is susceptible to fantasy-prone personality; the personality trait keeps an individual involved in prevailing and extensive inclusion in the fantasy.

Possessing the trait makes it difficult to fabricate the contradistinction between fantasy and reality, hence the individual starts believing the fantasy is reality. Without empirical evidence, UFO testimony seems to be a fantasy suggesting hallucinations and psychosomatic symptoms in the extreme case. Openness to mystical fantasy, self-altering experiences, and proneness to dissociation accelerates absorption. It would not be wrong to suspect the testimonies that have come across are repercussions of fantasy-prone personality resulting in an overwhelming absorption concerning the existence of extraterrestrials and their contact with the planet. Illusory truth effect comes into play because track records of the assertions persistently come to the forefront and reach out to onlookers.

Periodic indications concerning the existence of visitors make it easier to process than new information that no one had heard about before. After a period of time, when reputable journals and scientists started opening up about the evidence they have come across through various testimonies or claims, more and more people were getting to know about such imaginative and mysterious occurrences in the cosmic environment. Once the fact got established it gained attention from around the globe and eventually became a point of discussion. Reading materials and media reports are now readily available on the web, which are easily accessible. This continual exposure to the details and particulars is easier to accommodate, resulting in actually believing it as a truth. Familiarity overpowering rationality can affect the recipient's belief and cloud his judgement if he finds it even remotely relatable. The processing fluency increases in such cases, hence resulting in illusory truth bias.

The level of consciousness delineates the reason behind the inducement of fantasies. Experiences and materials stored in one's personal unconscious can be insignificant in the context of the present. Unresolved strife, antagonism over moral concerns, and emotion-induced thoughts are the chief fragments of one's unconscious; these thoughts mainly consist of repressed feelings which are now forgotten. Elements from one's personal conscious often emerge in the form of dreams. At times feelings and recollections correspond to each other and represent a theme. When themes have an emotional impact, they become a complex. An atypical response to stimulus is an indication of an emotional complex behind that stimulus which the individual is unaware of.

Collective unconscious, in contrast to personal unconscious, does not postulate person-specific experience. Materials that form the collective unconscious are independent of consciousness. The human mind has a propensity to render mythological motifs. Carl Jung emphasized one way of perceiving and structuring experience through archetypes. Archetypes work as a passage between collective unconscious and consciousness, which eventually turns into an action. Archetypes help with perceiving in the form of symbols and images instead of content. They are expressed in the form of fantasies, dreams, myths, folklores, art, and visions; through these forms, symbols represent the wisdom of humanity that can be applicable in the future.

Carl Jung attempted to understand why individuals believe they have seen spaceships and in the existence of aliens. He explained it with the help of symbols that the spaceship represents totality, coming to our planet from another planet or galaxy in the unconscious and little green men as archetypes. Jung used amplification to reach this conclusion. To associate meaning to the symbols one should have prior knowledge about the history and meaning of the symbols. It

indicates there is a possibility of suppression and buried past thoughts or feelings which are not socially acceptable and appropriate to be expressed, resulting in the sighting of UFOs and related fantasies as archetypical symbols from the unconscious. The fantasies act like reality and an individual misinterprets objects or things as physical. A psychoanalyst deciphers these symbols which are in the form of fantasy, and gives a meaning to it which ultimately helps the individual with his unconscious and buried sentiments.

Humans' innate tendency or propensity to perceive things as a whole throws some light on the physical images of radar and how they are intuited. The Gestalt school of psychology emphasizes cognizing an object as unexpurgated rather than in its components. It is presumed that UFOs flout the laws of physics because they transpose instantaneously or move in paradoxical ways. The radar images are obscure and cloudy; one can only see a dot of a structure like a plane, and cannot possibly identify it as a UFO just by looking at the image, even when there are no distinct features on it. Then why is it identified as a UFO? The predisposition to grasp an object or stimulus as a whole allows associating the present object with possible explanations attached to it, consequently perceiving a single dot in the sky as a possible UFO.

Discussion

Cognitive functioning and memory distortions are parallel to each other; inaccuracy in the sensory process leads to memory distortion. Sightings of UFOs are far more than just false memory or misinterpretation, but an ocean of incalculable possibilities. Influence of the surroundings around us and preconditioning which has taken place in the form of folklore is the first step when approaching the fascination with aliens and flying saucers. The mystical aura creates compelling engrossment, which is difficult to avoid or think about, especially when folklores are part of the culture. Familiarity with the tales establishes a breeding ground for information that can be accommodated in the future. It is possible that an individual might find it absurd to be the only person having an alluring fascination with UFOs, but when confronted with the fact that there are other people harmonizing with the same thought it builds up confidence and makes the belief even stronger. Validation from reputable journals, scientists, researchers, and other resources establishes conformity and mutual agreement. Not only are preconditioning or conformity manifested, to contribute to the absorption, but some other underlying cognitive distortions are responsible for the claims and testimonies of UFO sightings. Proneness to a particular trait or personality, which is facilitated by external factors, gives in to absorption with the fantasy that was planted at an early age. Fantasy is seen as reality which could not be apprehended otherwise, and an individual becomes so engrossed it becomes difficult to determine the difference between fantasy and reality.

Many researches and articles emphasize false memory and dissociation as behind UFO testimonies. The reliability of the testimonies has always been in doubt because of these practical cognitive distortions that take place in the human mind. Dissociating from a traumatic past event joins hands with false memory in a way that they can be associated with each other. Escaping from the reality and anxiety-provoking thought is always comforting, instead of facing and resolving it. Dissociation is a defense mechanism used for keeping away the anxiety-provoking thought after experiencing trauma. It is one type of dissociation to suppress his actual feelings and engage in a peculiar fantasy. It is a typical trait of a dissociative person to strongly believe that the traumatic event never existed, and that reality is really what they think right now.

Psychologists suspect that a dissociative person can go so far as to make others believe that they have seen something unnatural and clearly recall it, which is a false memory.

False memory is customarily observed in eyewitnesses at a crime scene, where one witness believes and remembers the event as something different; other witnesses give statements that contradict the memory of the witness who is experiencing false memory. Substantial evidence points towards the suppression of thoughts and interruption while senses are recording the scene as the chief reason behind false memory. Vivid memory of sighting a UFO or being abducted by aliens and failing to provide empirical evidence suggests that it can be the person's false memory. Carl Jung explained this with archetypes in the form of symbols. The deep-down unconscious and forbidden thoughts reach consciousness in the form of perplexing symbols, which can be resolved only by an expert. Symbols in the form of fantasies are not baseless; prior knowledge far from our awareness still exists about the fascination. These symbols can represent a wide array of possibilities and expressions that are similar to riddles.

Frequent exposure to testimony even without verifiable evidence makes it easy to fit in with prior knowledge about the object, since old information is easier to process than new information and the familiar becomes reality. An individual who is spellbound with a fantasy will read and dwell on resources in support of the thought or fantasy, and through this it will become a truth. The prior information will accommodate the new familiar information, syncing with the nature of the belief, and it will work like an illusion. It is somewhat similar to seeing things as a whole and undivided. A partially visible object on a tree can be a fruit, a bird, or a species of animal. Our perception of the object will depend on the accessibility of the information, prior knowledge, and interest. Environmental, social, and psychological factors all contribute to how an individual perceives the external stimuli and world around him. A slight distraction, interruption, or disruption in sensory registration warps the consciousness. There is no loophole to exit or avoid these distortions or biases; sometimes we are not even aware of the distortion. Falling in the trap of such illusions depends entirely on the level of consciousness.

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Clinical Evidence in the Italian Phenomenon of Alien Abduction

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Abstract: *Purpose.* Starting from the classic definition of “alien abduction”, the present research, which began with a study published in 2020 on the proposed clinical classification of this particular phenomenon, is aimed at confirming the theoretical assumption of psychopathological origin. *Methods.* Clinical interview and administration of the following psychometric tests: PICI-2, PSM-Q, PAD-Q and PDM-Q. *Results.* Preliminary results would suggest that the phenomenon of alien abductions has a greater tendency to occur in the female group and has an absolute prevalence in the believing population about the existence of paranormal phenomena per se, even in the absence of objective and/or scientific evidence. It is a phenomenon almost completely linked to a low to medium cultural level or not fully educated. It emerged that the selected sample suffers from delusional, dissociative, and narcissistic disorder; followed, as secondary disorders, by schizoid, borderline, obsessive, and psychopathic disorder. The analysis of functional traits also reported the marked dysfunctional tendency of the classes referred to as self-control, sensitivity, Ego-Es comparison, emotionality, ego stability, security, and relational functionality. Nearly two-thirds of the participants present a dysfunctional tendency in sexual behavior and a marked tendency to chronicle feelings of shame in avoidance behaviors or hyposexuality; in addition, 100% report significant or severe psychological or physical abuse at a young age, or intra-parental relational imbalances, or otherwise a sexual upbringing that is not open and lacks free communication. *Conclusions.* This research confirms the psychopathological nature of the alien abduction phenomenon, which deserves to be treated using a psychotherapeutic approach and possibly also pharmacological in serious cases, depending on the symptoms manifested and the severity of the morbid condition.

Keywords: Alien, Alien abduction, UFO, PICI-2, PDM-Q, PSM-Q, PAD-Q, PHEM

Introduction and Background

In the literature, the experience of alien abduction consists of the alleged kidnapping of human beings by extraterrestrial biological entities, using superior technologies. The information is not always clear whether these experiences are lived onboard spacecraft orbiting deep space outside the Earth’s orbit, or inside specially built underground military bases. The narratives supporting this circumstance are often different, as are the medical investigations that are carried out by an unspecified specialized technical staff. [1]

In the world, thousands of people claim to have, at least once, the experience of being kidnapped by an alien race (mainly described as grey type humanoids, Nordic type humanoids, and reptilians). Certainly, it is a fact that to talk about alien abductions we must give credence to the existence of extraterrestrial biological entities capable of interacting with us and possessing highly advanced intelligence and technology, far superior to our current knowledge. The (non-scientific) evidence supporting the confirmation hypothesis of the phenomenon are eyewitness testimony, mechanical evidence (audio and video), the retrieval of objects related to the “abduction” phenomenon such as the plants allegedly found in the body of the kidnapped, and the experiences of direct contact with one of the alien breeds described. [1]

Generally, in the field of ufology, encounters with creatures from other worlds and mysterious aircraft follow a precise identification, according to the system of astrophysicist Allen Hynek and ufologist Ted Bloecher's directives [1]. In particular:

1. CE1 (type 1): one or more flying objects of defined solid mass or stray lights are sighted;
2. CE2 (type 2): there are phenomena caused by the presence of a flying object, such as crop circles, the heat or radiation that damages the ground, human paralysis not otherwise diagnosed, interference with engines or radio-television reception, and the loss of space-time cognition (intended as a flaw in the memory of a person associated with the alien encounter);
3. CE3 (type 3): animated beings are seen, understood as extraterrestrial biological entities, in association with a sighting of unidentified flying objects;
4. CE4 (type 4): one or more witnesses are the victims of alien abduction;
5. CE5 (type 5): there is a direct encounter with the extraterrestrial creature in a bilateral communication relationship established through conscious, voluntary, and active human initiatives, or in any case through psychic cooperative communication;
6. CE6 (type 6): long-term pathological effects are suffered, deriving from direct contact with the alien creature;
7. CE7 (type 7): there is finally the direct participation, with human-alien hybridization through mating or the birth of a creature that is the fusion with the terrestrial race.

In the scientific literature there are very few works dedicated to this topic, and all the studies published are focused in various ways on psychopathological profiles, albeit with population samples too small and therefore not sufficient to sanction the statistical representativeness; however, the data are still interesting and deserve attention:

1. *Research focuses attention on child abuse.* Six adults, who had recently experienced sudden recall of preschool memories of sexual abuse or alien abduction/visitation, underwent comprehensive neuropsychological evaluations. All experiences “emerged” when hypnosis was used in the context of sexual abuse or New Age religion and was followed by a reduction in anxiety. As a group, these subjects showed significant elevations (T greater than 70) of childhood imagery, complex partial epileptic signs, and suggestiveness. Neuropsychological data indicated right frontal temporal abnormalities and reduced access to the right parietal lobe. MMPI profiles were normal. The findings support the hypothesis that enhanced imagination due to temporal lobe lability within specific contexts may facilitate the creation of memories; they are further strengthened if there is also reduced anxiety. [2]

2. *Research focuses attention on sleeping disorders.* It is clear that sleep is not only a global or cerebral phenomenon but can also be a local phenomenon. This explains the fact that the primary states of being (wakefulness, NREM sleep, and REM sleep) are not necessarily mutually exclusive, and the components of these states can appear in various combinations, with fascinating clinical consequences. Examples include sleep inertia, narcolepsy, sleep paralysis, lucid dreams, REM sleep behavior disorder, sleepwalking, sleep terrors, out-of-body experiences, and reports of alien abduction. Incomplete state declaration also has implications for consciousness—which also has fluid boundaries. Fluctuations in the degree of consciousness are likely explained by abnormalities in a “rhythm of spatial and temporal binding” that normally results in a unified conscious experience. Dysfunctional binding may play a role in anesthetic

states, autism, schizophrenia, and neurodegenerative disorders. Further study of the broad spectrum of dissociated states of sleep and wakefulness that are closely related to states of consciousness and unconsciousness by basic neuroscientists, clinicians, and members of the legal profession will provide scientific, clinical, and therapeutic insights with forensic implications. [3]

3. *Research focuses attention on false memories.* People sometimes fantasize entire complex scenarios and later define these experiences as memories of actual events rather than as imaginations. This article examines research associated with three such phenomena: past-life experiences, alien UFO contacts and abductions, and memory reports of childhood satanic ritual abuse. In each case, elicitation of fictional events is frequently associated with hypnotic procedures and structured interviews that provide strong, repeated requests for the requested experiences, and then legitimize the experiences as “real memories.” Research associated with these phenomena supports the hypothesis that recollection is reconstructive and organized in terms of current expectations and beliefs. [4-5]

4. *Research focuses attention on sleep paralysis.* Sleep paralysis is a dissociative state that occurs primarily during waking and is characterized by alterations in motor, perceptual, emotional, and cognitive functions, such as the inability to perform voluntary movements, visual hallucinations, feelings of pressure in the chest, delusions about a frightening presence, and, in some cases, fear of imminent death. Most people experience it infrequently, but typically when sleeping in the supine position; however, paralysis is considered an illness (parasomnia) when it is recurrent and/or associated with the emotional burden. Interestingly, throughout human history, different peoples have interpreted paralysis according to a supernatural view. For example, Canadian Eskimos attribute paralysis to shaman spells, which hinder the ability to move and cause hallucinations of a formless presence. In Japanese tradition, paralysis is due to a vengeful spirit that suffocates its enemies during sleep. In Nigerian culture, a female demon attacks during a dream and causes paralysis. A modern manifestation of paralysis is the reporting of “alien abductions,” experienced as an inability to move during waking associated with visual hallucinations of aliens. In all, paralysis is a significant example of how a specific biological phenomenon can be interpreted and shaped by different cultural contexts. To further explore the ethnopsychology of paralysis, in this review we present the “Pisadeira”, a Brazilian folklore character native to the southeast of the country, and also present in other regions with variant names. The Pisadeira is described as a witch with long nails who lurks on rooftops at night and stomps on the chests of those who sleep with their stomachs full. This legend is mentioned in many anthropological accounts; however, no comprehensive references can be found about the Pisadeira from the perspective of sleep science. [6] Again, sleep paralysis accompanied by hypnopompic (“waking”) hallucinations is an often frightening manifestation of the discordance between the cognitive/perceptual and motor aspects of rapid eye movement (REM) sleep. Sleepers upon awakening become aware of an inability to move, and sometimes experience the intrusion of dream mentality into waking consciousness (e.g., seeing intruders in the bedroom). Two studies are summarized in this paper. In the first study, we evaluated 10 individuals who reported being abducted by space aliens and whose claims were linked to apparent episodes of sleep paralysis during which hypnopompic hallucinations were interpreted as alien beings. In the second study, adults reporting repressed, recovered, or ongoing memories of childhood sexual abuse more often reported sleep paralysis than a control group. Among the 31 who reported sleep paralysis, only one person linked it to memories of abuse. This person was among the six

participants with recovered memory who reported sleep paralysis (i.e., 17% rate of interpreting it as related to the abuse). People rely on personally plausible cultural narratives to interpret these otherwise puzzling episodes of sleep paralysis. [7]

5. *Research focuses attention on epileptic states and false memory.* 20 male and 20 female undergraduate students were exposed singly for 20 minutes to an exotic setting (partial sensory deprivation and weak, bilateral transtemporal pulsed magnetic fields) that enhances relaxation and exotic experiences. The numerical incidence of subjective experiences described as old memories, dreams, emotions, or vestibular sensations did not differ significantly between the sexes; however, women who reported a greater prevalence of pre-experimental complex partial epileptic-like signs were more likely to report experiences of “old memories” ($r = 0.61$), while men who exhibited these signs were more likely to report dream-like experiences ($r = 0.49$). Because complex partial epileptic-like signs are positively associated with suggestibility, the potential contribution of this differential gender effect to the etiology of False Memory Syndrome requires further investigation. [8]

6. *Research focuses attention on childhood sexual abuse.* Twelve white middle-class women who had been severely sexually abused as children by a family member were asked to provide a narrative of their abuse and discuss their subsequent remembering and forgetting of these experiences. Most claimed they had undergone periods during which they had not recalled their abuse, but also claimed that they had never forgotten their experiences at another point during the interview. Nine of the women had actively tried to forget the abusive experiences, although eight still experienced recurrent and often relentless intrusive memories. Our findings suggest that women with continuous memories may have longer and more coherent narratives than women without continuous memories. Implications of these findings for understanding the phenomenology of memorable experiences and the concept of “recovered” memories of childhood sexual abuse are discussed. [9] People sometimes report recovering long-forgotten memories of childhood sexual abuse. The memory mechanisms that lead to such reports are not well understood, and the authenticity of recovered memories has often been questioned. We identified two subgroups of individuals reporting recovered memories of childhood sexual abuse. These subgroups differed dramatically in their cognitive profiles: People who recovered memories of abuse through suggestive therapy exhibited greater susceptibility to the construction of false memories but showed no tendency to underestimate their prior memories. In contrast, individuals who recovered memories of abuse spontaneously exhibited a greater propensity to forget their prior memories but did not show greater susceptibility to false memories. This double dissociation points to the mechanisms underlying recovered memory experiences and indicates that recovered memories may sometimes be fictitious and other times authentic. [10-11]

“Contactism” must be differentiated from the phenomenon of alien abduction, both from a technical and clinical point of view: the former is the person who claims to be in contact with alleged extraterrestrial biological entities, to receive messages and communications of a nature mysterious, esoteric, and spiritual (for the good of humanity), without ever undergoing contact with violence or compulsion. This hypothesis, in a psychiatric clinic, is often associated with delusional or hallucinatory experiences, the result of a psychotic disorder or a class A personality disorder, well-structured and outlined in their chronic condition, according to DSM-5. In the

hypothesis of alien abduction, if not repeated over time (according to the patient's medical history), one could think of episodes of an acute or in any case less serious and pervasive nature, such as, for example, episodes of sleep paralysis, epilepsies of the temporal lobe, alterations determined by modifications of the electromagnetic field, constructions of false memories on a post-traumatic basis, or single psychotic episode and dissociative tendency. The DSM-IV, in its revised version R, included alien abductions in the section dedicated to religious and spiritual problems (V62.89) supporting the direct connection with the last generation's religious movements. The DSM-5 instead radically shifts the axis of an investigation by eliminating the thorny issue, thus bringing into play the multifactorial diagnosis and the possible correlations with the pre-existing conditions already categorized in the manual. In other cases, on the other hand, the hypotheses of voluntary mystifications have often been found, as happened in the cases of contactees George Adamski, and Eduard ("Billy") Meier. Psychologist Chris French examined nineteen people who believed they were abducted by aliens and found a tendency towards fantasy, hallucinations, dissociation, and belief in the paranormal greater than normal, concluding that there is no reason to believe that those people are victims of kidnappings by extraterrestrial biological entities. Finally, in some episodes of kidnappings, surgical interventions aimed at implanting alien devices in the human body are often mentioned, for the remote control of thoughts and physiological functions. Such "alien" implants would be concrete proof of the existence of the phenomenon. Some researchers and scientists have tried to identify the materials implanted in bodies, as Dr. Roger Leir (known first as a surgeon and later as a podiatrist, specializing in micro-operations exclusively on the foot) attempted to make, and Derrel Sims (ufologist, expert in certified hypnotherapy). A little more than a dozen physical tests were collected and certified (including, in 1978, a mysterious triangular object with a metallic nuclear heart, seven centimeters long and four centimeters wide, covered by a red-brown membrane and equipped with many receptors connected to the nerve endings). These findings were then mysteriously hidden, effectively avoiding further and accurate technical-scientific and biological investigations. [12]

In 2020, this writer tried to trace in specialized research all possible hypotheses that would explain the phenomena under consideration. In particular, the following conclusions were reached [12-49]:

1. There is no documented evidence in the academic and scientific field about the chemical-physical investigations carried out on the findings extrapolated from humans, although there are suggestive reports from accredited laboratories about the mysterious origin of the same objects, with a strong indication for an extraterrestrial origin.
2. The patients who report having experienced alien abductions have a greater attraction and interest in paranormal phenomena and have a history of post-traumatic episodes and sleep paralysis (and disturbances), all events capable of generating false memories and episodes of hallucinations, as in the hypothesis of post-operative awakening.
3. A strong tendency for patients to dissociate is connected with altered functionality of the temporal lobes.

4. The alien abductions, abuses with a satanic background, and the identities of past lives seem connected to the reconstruction of false memories, typical in patients with high imagination and fantasy, connected to a hyperactivity of the upper longitudinal fasciculus and an altered functionality of the frontal lobe, of the prefrontal cortical regions, the hippocampal and vascular deficits (in particular, those referring to the anterior artery in the Willis's Polygon), in situations of high stress perceived by the patient.

5. The best treatment suggested in the scientific literature is the one combining psychotherapy (strategic or cognitive-behavioral) and psychopharmacology (especially in the presence of evident clinical psychotic signs or disorders that need a pharmacological approach to stabilize the patient before continuing or setting up psychotherapy targeted and centered on the needs specifically identified during the anamnesis). In the presence of confirmed dissociative episodes or rich production of false memories, it is not recommended to make use of hypnosis and suggestive techniques, which could incentivize or strengthen this patient's interpretation of reality. [12]

6. The phenomenon of alien abduction, in the absence of scientific evidence, must be considered to have a psychopathological matrix. Therefore, a scale of severity of symptoms is identified (*Perrotta Alien Abduction Scale*, PAAS):

- a) Level 1: voluntary mystification.
- b) Level 2: delusions or hallucinations determined by the use of substances capable of altering the state of consciousness or by morbid neurological forms (such as epilepsy, tumors, vasculopathy, vascular disorders, trauma).
- c) Level 3: false memories connected to post-traumatic stressful events, with pathologically oriented personality traits.
- d) Level 4: altered state caused by the obsessive idea of abduction, in comorbidity with sleep disturbances and pathologically oriented personality traits.
- e) Level 5: altered state caused by the dissociative disorder.
- f) Level 6: altered state caused by eccentric personality profiles (cluster B, DSM-V; cluster B, PICI-2).
- g) Level 7: altered state caused by psychotic personality profiles (cluster A, DSM-V; cluster C, PICI-2).

This theoretical approach appears, in the writer's opinion, to be complete and detailed, and will therefore be used in this research work as an evaluation scale concerning the symptoms manifested by the patients, part of the selected population.

Research Objectives and Methods [110]

The methods used are two: 1) Clinical interview, based on narrative-anamnestic and documentary evidence and the basis of the Perrotta Human Emotions Model (PHEM) concerning their emotional and perceptual-reactive experience; 2) Administration of the battery of psychometric tests published in international scientific journals by the author of this work: a) Perrotta Integrative Clinical Interviews (PICI-2), to investigate functional and dysfunctional personality traits; b) Perrotta Individual Sexual Matrix Questionnaire (PSM-Q), to investigate individual sexual matrix; c) Perrotta Affective Dependence Questionnaire (PAD-Q), to

investigate affective and relational dependence profiles; d) Perrotta Human Defense Mechanisms Questionnaire (PDM-Q), to investigate ego defense mechanisms.

The phases of the research were divided as follows:

1. Selection of the population sample, according to the parameters indicated in the following paragraph.
2. Clinical interview, to each population group.
3. Administration of the Perrotta Integrative Clinical Interviews (PICI-2), Perrotta Individual Sexual Matrix Questionnaire (PSM-Q), Perrotta Affective Dependence Questionnaire (PAD-Q), and Perrotta Human Defense Mechanisms Questionnaire (PDM-Q).
4. Data processing following administration.
5. Comparison of data obtained.

Setting and Participants [110]

The requirements decided for the selection of the sample population are:

- 1) Age between 18 years and 67 years, healthy and robust constitution and without pathological symptoms.
- 2) Italian nationality, with Italian ancestors in the last two generations: this choice is oriented in this sense to avoid cultural contaminations determined by popular beliefs different from the Christian-Catholic cult.
- 3) Precocious and manifest physical and psychic symptoms attributable to the state of alien abduction (altered perception of time with memory lapses, lucid dreams, bodily paralysis with fully or partially preserved state of consciousness, bodily marks and scars of unknown origin, perception of feeling observed or spied on, perceptions of metallic or distorted sounds in the absence of objective explanations, persistent insomnia, episodes of electromagnetic alteration to equipment present near the subject, physical fatigue, presence of bodily implants of unknown origin).
- 4) Declaration of alien possession based on the subjective experience, about the testimonies of family members.
- 5) Absence of psychopathological diagnosis or neurological and neurodegenerative disorder.

The selected setting, taking into account the protracted pandemic period (already in progress since the beginning of the present research), is the online platform via Skype and Video call WhatsApp, both for the clinical interview and for the administration.

The present research work was carried out from March 2018 to September 2021. All participants were guaranteed anonymity and the ethical requirements of the Declaration of Helsinki are met. The selected population clinical sample, which meets the requirements, is 112 participants, divided into five groups:

Table 1: Population sample (size).

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
18-27	4	7	11
28-37	9	14	23
38-47	18	29	47
48-57	11	13	24
58-67	3	4	7
Total	45 (40.2%)	67 (59.8%)	112 (100%)

Table 2: Population sample (% by sex in each age range).

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
18-27	4 (36.4 %)	7 (63.6%)	11 (100%)
28-37	9 (39.1%)	14 (60.9%)	23 (100%)
38-47	18 (38.3%)	29 (61.7%)	47 (100%)
48-57	11 (45.8%)	13 (54.2%)	24 (100%)
58-67	3 (42.8%)	4 (57.2%)	7 (100%)

Results and Limits [110]

After the selection of the chosen population sample (first stage), we proceeded with the clinical interviews (second stage), from which the first significant data emerged:

1. Considering the total population sample (112/112), one immediately notices the good disparity between the size of the overall female sample (67/112) compared to the male sample (45/112). Preliminary results from the interviews and the anamnestic form would suggest that the phenomenon of alien abductions has a greater tendency to occur in the female group, in the adult and mature group (and tends to diminish but not disappear with advancing age) and in the group geographically originating in central-northern Italy (due to lower religious influences but greater openness to the typical contents of ufological and mystery narratives). Moreover, the subsequent results would lead us to deduce with almost total certainty, concerning the selected sample, that the phenomenon of alien abductions has an absolute prevalence in the believing population concerning the existence of paranormal phenomena per se, even in the absence of objective and/or scientific evidence. It is a phenomenon almost completely linked (110/112, 98.2%) to a medium-low or not fully educated cultural level.

2. Also during the first clinical interview, other interesting data emerged that further strengthened the initial hypothesis: All the proposed narratives presented fantastic and phantasmal elements, unsupported by evidentiary evidence such as descriptive testimonies, photo-video-audio material and peculiar physical signs. 91/112 (81.2%) claimed to possess unexplained bodily scars, without however supporting these claims with any specific clinical or material evidence. At the clinical interviews, 48/112 (42.8%) of the sample presented markedly psychotic symptoms (mainly paranoid, delusional, dissociative and schizophrenic) but denied ever having received a psychiatric diagnosis or having ever taken psychotropic drugs or having undergone psychotherapy.

3. Using, during the interview, the strategic language and the Perrotta Human Emotions Model (PHEM), it emerged that the totality of the selected population sample presents a full distress orientation, facilitating feelings such as guilt, shame, anger, fear, and disappointment, in the presence of past (childhood) and current (interpersonal and work) family traumas. In fact, without the administration of questionnaires, it is evident that the impairment of perception in the plane of reality involves per se the manifestation of paranormal episodes described by patients, in the presence of a probable personality disorder to be identified with the help of psychodiagnostics tools.

The third stage of the research focused on the administration of the battery of questionnaires, and these revealed the following results: [50-108]

1. Administration of the Perrotta Integrative Clinical Interviews (PICI-2). Concerning the analysis of the dysfunctional traits (PICI-2TA), the primary disorder that emerged with at least 5 traits is delusional disorder (60/112, 53.6%), dissociative disorder (36/112, 32.1%) and narcissistic disorder (18/112, 16%). Secondary disorders include delusional disorder (if not considered as a primary disorder, 65/112, 58%), schizoid disorder (21/112, 18.8%), borderline disorder (10/112, 8.9%), obsessive disorder (8/112, 7.1%) and psychopathic disorder (5/112, 4.5%). A separate category that deserves specific mention is schizophrenic disorder, which was first diagnosed in 2/112 (1.8%) of the population sample (1 woman and 1 man, both in the 38-47 age group) after the administration of the PICI-2, confirmed by the psychiatric examination proposed subsequently. In 108/112 (96.4%) the following disorders emerged as comorbidities: ADHD (in the population under 27 years of age), body dysmorphism, ICT disorder, sleep disorders, eating disorders, anxiety and mood disorders, paraphiliac disorders, and behavioral addictions (especially technology and internet addiction). The concrete suicide risk emerged in 23/112 cases (20.5%), while the presumed risk or request for attention emerged in 48/112 (42.8%). Equally interesting is the cause/concause “epilepsy”: 24/112 (21.4%) report being on anti-epileptic therapy, while 71/112 (63.4%) report having had in their lives at least one episode referable to epilepsy and/or a syncopal state of vasovagal origin. On the other hand, in the analysis of functional traits (PICI-2FT), it emerged that the most compromised classes, because they tended to be dysfunctional (with values of 0 or 4), were those referring to self-control, sensitivity, action, Ego-Id comparison, emotionality, ego stability, security, and relational functionality, confirming here too the marked dysfunctional tendency of the clinical population. These findings place the clinical group under examination in correlation with the clinical group of subjects presumably affected by demonic possession. The preference for the administration of the PICI-2 concerning other widely validated and used psychometric tests, such as the MMPI-2, was for reasons of expediency: in fact, previous research has demonstrated the efficacy and efficiency, sometimes better indicated, of the PICI-2 rather than the MMPI-2, in terms of performance and completeness of diagnosis.

2. Administration of the Perrotta Individual Sexual Matrix Questionnaire (PSM-Q). The PSM questionnaires demonstrated that almost 2/3 of the participants (73/112, 65.2%) show a dysfunctional tendency towards sexual behavior and a marked tendency to chronicle feelings of shame in avoidance behavior or hyposexuality. Furthermore, 100% (112/112) of the sample of the population interviewed reported having suffered significant or serious psychological or physical abuse at a young age, or intra-parental relational imbalances, or in any case a sexual upbringing that was not open and lacking in free communication.

3. Administration of the Perrotta Affective Dependence Questionnaire (PAD-Q). According to the PDM-Q, 27.7% (31/112) are affected by affective dependency, with greater emphasis on types I (neurotic), VI (covert narcissist), V (borderline) and III (histrionic), in this descending order.

4. Administration of the Perrotta Human Defense Mechanisms Questionnaire (PDM-Q). The PDM-Q reveals the widespread psychopathological tendency of the functional framework of the Ego, in the totality of the population sample (112/112) for the mechanisms of isolation, denial, regression, reactive formation, denial, projection, removal, withdrawal, instinct, repression and idealization.

Conclusions [110]

The last two steps served to reorder the results, and then draw conclusions. In particular:

1) Results obtained by Clinical interview. Preliminary results from the interviews and the anamnestic form would suggest that the phenomenon of alien abductions has a greater tendency to occur in the female group, in the adult and mature group (and tends to diminish but not disappear with advancing age) and in the group geographically originating in central-northern Italy (due to lower religious influences but greater openness to the typical contents of ufological and mystery narratives). Moreover, the subsequent results would lead us to deduce with almost total certainty, concerning the selected sample, that the phenomenon of alien abductions has an absolute prevalence in the believing population concerning the existence of paranormal phenomena per se, even in the absence of objective and/or scientific evidence. It is a phenomenon almost completely linked (110/112, 98.2%) to a medium-low or not fully educated cultural level.

2) Results were obtained by Perrotta Integrative Clinical Interviews (PICI-2). Based on the PICI-2 it emerged that the primary emerging disorders are alternately delusional disorder, dissociative disorder, and narcissistic disorder; followed, as secondary disorders, by delusional disorder (if not considered as primary disorder), schizoid disorder, borderline disorder, obsessive disorder, and psychopathic disorder. Also, the analysis of functional traits reported the marked dysfunctional tendency of the classes referring to self-control, sensitivity, Ego-Es comparison, emotionality, ego stability, security, and relational functionality, confirming here the marked dysfunctional tendency of the clinical population.

3) Results were obtained by Perrotta Individual Sexual Matrix Questionnaire (PSM-Q). According to the PSM-Q, almost 2/3 of the participants (73/112, 65.2%) show a dysfunctional tendency towards sexual behavior and a marked tendency to chronicle feelings of shame into avoidance behavior or hyposexuality. Again, 100% of the sample of the population surveyed report having suffered significant or serious psychological or physical abuse at a young age, or intra-parental relational imbalances, or in any case a sexual upbringing that was not open and lacking in free communication.

4) Results were obtained by Perrotta Affective Dependence Questionnaire (PAD-Q). According to the PDM-Q, 27.7% (31/112) are affected by affective dependency, with greater emphasis on

types I (neurotic), VI (covert narcissist), V (borderline) and III (histrionic), in this descending order.

5) Results were obtained by the Perrotta Human Defense Mechanisms Questionnaire (PDM-Q). The PDM-Q reveals the widespread psychopathological tendency of the functional ego framework for the mechanisms of isolation, denial, regression, reactive formation, denial, projection, removal, withdrawal, instinct, repression, and idealization.

In conclusion, this research confirms the psychopathological nature of the alien abduction phenomenon, which deserves to be treated using a psychotherapeutic approach (preferably cognitive-behavioral and/or strategic) [109] and possibly also pharmacological in serious cases, depending on the symptoms manifested and the severity of the morbid condition.

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From “I Witnessed...” to Established Hypothesis: UFO Cultures and Contexts

Scott R. Scribner and Gregory J. Wheeler

It's not what happened. It's what you can get a jury to believe happened.

Philip Gerard (Raymond J. Barry)¹

Abstract: In this essay, the authors present key cultural themes and contexts that may be critical in evaluating and interpreting reports of *unidentified aerial phenomena* (UAP/UFOs) and extraterrestrial contact claims, such as *alien abduction narratives* (AANs). Specifically, they distinguish between forensic reports and contact narratives and highlight the impact of increasing cosmological awareness. Building on survey data that indicates a dramatic rise in public belief in extraterrestrial life and expectation for its discovery, if not current presence; and the 2003 Alien Fears study that led to a testable social transmission model for experiential narratives; a continuum model is proposed to distinguish among different observer reports and data relevant to the Extraterrestrial Hypothesis.

Keywords: Unidentified aerial phenomena (UAPs), Unidentified flying objects (UFOs), Ufology, Alien abduction narratives (AANs), Contactees, Abductees, Experiencers, Storytellers, Narrators

Introduction

For as long as human consciousness has existed within Nature—and well before our capacity for self-reflection developed into science—our abilities for sensing and focused attention have generated a wide range of perceptions and interpretations of our environments. Human cultures have assembled these elements into stories, myths, narratives, and explanations. During the second half of the 20th Century, two distinct cultural streams based on witness reports of *unidentified aerial phenomena* (UAPs) achieved considerable social and intellectual prominence: reports of *unidentified flying objects* (UFOs), and extraterrestrial contact claims, including *alien abduction narratives* (AANs) (Scribner, 1999; 2003). These two streams—sometimes jointly called *ufology*—have come to reflect different subcultures with differing standards of evidence. Both rely foundationally on witness reports, but the subjects and objects of the “witnessing” can be problematic.

Existing literature offers dozens of proposed theories for UFO phenomena; most interpret them as some type of physical, psychosocial, or religious event, thus presumptively granting them ontological status. However, further examination reveals distinct differences between these categories of reports, including different perceiver and perception types. For example, formal UFO sighting reporters tend to be extraverted and realistically oriented; whereas some sources of AANs were found to be more introverted, artistic, and in many cases, they were discovered by outside professionals or journalists (Mack, 1994) instead of self-reporting.

Wheeler (2000) characterized these two UFO cultures as reflecting differences between *Weldbild* (scientific) and *Weltanschauung* (worldview) concerns. Methodological parallels can be found in

¹ CSI: Crime Scene Investigation (2002).

anthropology between *etic* (analytical) and *emic* (local, or folk) knowledge (Pike, 1954; Goodenough, 2003); or as products of *explicit* or *implicit* memory in developmental psychology (Van de Kolk, 2014). Such a bicameral distinction can serve as a bridge to understanding that the story can be both *true* and *strange*; that is, it can form the basis for both forensic and philosophical or religious inquiry. Instead of presuming to uncover “what really happened,” an objective approach must first understand such phenomena as they present themselves and then propose investigatory methods that are appropriate to such understandings.

Ufology and Its Discontents

Research on unidentified flying objects (UFOs) and alien abduction narratives (AANs) has always been controversial. It has been suggested that ufology--the study of unidentified flying objects and related phenomena--has failed as a science (Sturrock, 1999; Jacobs, 2000). When a Stanford University scientist says that UFO data would be “better” when it is “scientifically collected,” the implicit message is that the previous fifty years of study had produced little of value. In Wheeler’s terms, there still is no agreement on what constitutes a legitimate First Contact Science (Wheeler, 2000). In terms of ufology’s credibility, some of the questions raised by AANs resemble those in areas identified by sociologists as “wild psychotherapies” (O’Keefe, 1982).

Do We Owe the Public a UAPology?

Whether as forensic investigation or social science, ufology remains on the margins. Marginal disciplines issue scientific disclaimers when they say, “Take a look at the evidence and decide for yourself.” Instead of promoting critical scrutiny, such a presentation may cloak an in-group “agreement to agree” because what constitutes evidence is predetermined by the social context. Sociologist James Lewis asserts that such intra-group knowledge comes about through “conversations.”² To the in-group, the evidence is what new arrivals are supposed to accept by initiation into the group agreement.

Data reliability is a challenge that confronts any scientific researcher and becomes especially salient when investigating anomalous phenomena. The objectives of an eyewitness reliability project include the development of standards and procedures for evaluation of witness reports as they relate to UAP/UFO phenomena. This dilemma can be seen by considering the contrasting forms of evidence in the classification system first devised by J. Allen Hynek. From “distant lights in the sky” to “Close Encounters of the Third Kind,”³ Hynek sought to expand the conception of “hard core data” in order to set up criteria unique to the “UFO problem.”⁴ Specifically, Hynek required “accounts that were made, in each instance, by at least two persons of demonstrated mental competence and sense of responsibility” and therefore should not be rejected out of hand as spurious.

One might question whether even a highly trained and respected astronomer is qualified to determine mental competence in the clinical sense. The psychological state of an observer experiencing “high strangeness” evokes perceptual filters influenced by their past experiences and presuppositions. These conditions can result in quite different stories about what was witnessed

² Lewis, J. (1997). Personal communication.

³ Center for UFO Studies (cufos.org).

⁴ Hynek, p.38. “...what constitutes hard-core data for one field of study may not be considered so for another.”

and lead to different conclusions, depending on the observer. Taking into consideration the interactions of reality testing, fantasy imagery (imagination, hypnagogia, dreaming), and media influences, the difficulty of determining witness reliability can be profound, as summarized by Ioan Culianu (2001):

The outside world could not exist without the mental universe that perceives it, and this mental universe in turn borrows its images from perceptions... Thus, the world outside us and the world inside us are not truly parallel, for not only do they interfere with each other in many ways, but we cannot even be sure where one of them ceases to be and the other commences.

One objective of an eyewitness reliability project is the determination of factors that could provide a solid basis for the confirmation or disconfirmation of the Extraterrestrial Hypothesis (ETH).⁵ During his investigations, Hynek stated that “there are no shortage of cases” and in subsequent decades, UAP reports have only proliferated. From the same data, remarkably diverse conclusions have been drawn by researchers, military spokespersons, scientists, ufologists, and even politicians, leading to the primary conundrum: has the ETH been validated or not?

On the affirmative side are numerous advocates in the Disclosure Movement, including testimony of former governmental and military personnel who have come forward with stories of “alien technology” and even alien beings. Dr. Steven Greer, MD, claims extensive briefings by highly placed government officials with the testimony he gathered over the years from a variety of well-placed individuals.⁶ In a report submitted to Congress, Greer states unequivocally, “The evidence and testimony presented in the following pages establishes...that we are indeed being visited by advanced extraterrestrial civilizations and have been for some time.”⁷ Former Israeli space security chief Haim Eshed, “claims Israel and the United States have been dealing with an alien organization known as the 'Galactic Federation' for ages.”⁸ Even a casual review reveals a large number of books and articles claiming that “we have been contacted.”

From these, one might conclude that the ETH has already been verified, but it is significant that this supposition occurs in the presence of a pervasive public belief that ETs exist.⁹ Despite the testimonies of highly credible individuals in positions to “know the truth,” and the plethora of “close encounter” narratives of various kinds investigated by scientists such as Hynek and others, we have a scientific obligation to juxtapose the contrary view of the null hypothesis.¹⁰ The most recent official U.S. Government document cites a relatively small number of unclassifiable cases

⁵ Extraterrestrial hypothesis - Wikipedia.

⁶ Testimony – The Disclosure Institute.

⁷ <https://waskosky.com/mirrors/DisclosureProjectBriefingDocument.pdf>

⁸ <https://www.gefenpublishing.com/product.asp?productid=2935>

⁹ National Geographic: <https://www.livescience.com/21216-americans-ufo-belief.html> . Pew Research: <https://www.pewresearch.org/fact-tank/2021/06/30/most-americans-believe-in-intelligent-life-beyond-earth-few-see-ufos-as-a-major-national-security-threat/>

¹⁰ “The U.S. government has no evidence that any life exists outside our planet, or that an extraterrestrial presence has contacted or engaged any member of the human race,” Phil Larson from the White House Office of Science and Technology Policy reported on the WhiteHouse.gov website. “In addition, there is no credible information to suggest that any evidence is being hidden from the public’s eye.” <https://mufon.com/2011/11/07/white-house-theres-no-sign-of-e-t-or-ufo-cover-up/>

as “...unidentified due to limited data or challenges to collection processing or analysis...[requiring] additional scientific knowledge to successfully collect on, analyze and characterize some of them.”¹¹

Scientific opinion ranges widely from outright dismissal of most of the accumulated evidence pool, to acknowledgement of only the hypothetical probability of extraterrestrials, while also asserting the lack of contact asserted by the Fermi Paradox.¹² Dick (1996) summarized the dismissal of UFO type reports as follows:

At least three circumstances joined in precipitating the decline of the extraterrestrial hypothesis of UFOs in mainstream science. First, even taking into account the failings of the Condon Study, no incontrovertible evidence was produced in favor of the hypothesis, and its champions realized that to maintain the extraterrestrial theory lacking such evidence was an obstacle to further study of the UFO phenomenon. Second, “New Wave” theories of UFOs led away from the extraterrestrial hypothesis and toward ever more ethereal ideas associated with the New Age movement that grew in the last quarter of the twentieth century, confirming to scientists that this was a subject to be avoided. Finally, the rise of claims that, if true, would have proven the extraterrestrial hypothesis -ancient astronauts, spaceship crashes, contactees, and abductees- were based on evidence (such as statements under hypnosis) that most scientists could not accept, thereby bringing the entire extraterrestrial hypothesis into disrepute. Pervading all of these factors was the question of scientific method and the nature of evidence, questions that mean a great deal to working scientists but often all too little to the public.¹³

The Fermi Paradox cites this lack of evidence as further suggesting that the ETH must be answered in the negative--humans are the only inhabitants of our Milky Way galaxy--or else that some fate must befall advanced civilizations if they do arise that prevents the inevitable expansion into the galactic space that would assure contact (statistically speaking).

Well before astronomical advances confirming the existence of thousands of exoplanets, Brin (1983) reviewed the theoretical positions taken at the time regarding the lack of evidence confirming the ETH. Most of these concepts are still referenced in current literature, at least by scientists willing to comment on these subjects. Brin concluded that:

Some of the branch lines discussed here serve the optimists, while others seem pessimistic to an unprecedented degree...This survey demonstrates that the Universe has many more ways to be nasty than previously discussed. Indeed, the only hypotheses proposed which appear to be wholly with observation and with non-exclusivity –“Deadly Probes” and “Ecological Holocaust”- are depressing to consider.¹⁴

Also prior to the discovery of any confirmed exoplanets, Barrow and Tipler (1986) took a particular view of human uniqueness that centers on the “Cosmological Anthropic Principle”

¹¹ <https://www.dni.gov/files/ODNI/documents/assessments/Preliminary-Assessment-UAP-20210625.pdf>

¹² <https://www.seti.org/fermi-paradox-0>

¹³ S. J. Dick. *The Biological Universe*, p.308.

¹⁴ A. D. Brin, “The ‘Great Silence’: the Controversy Concerning Extraterrestrial Life.” *Quarterly Journal of the Royal Astronomical Society*, Vol. 24, No. 3, P.283-309, 1983.

(CAP). This view demands that the universe be “as big as it is in order to evolve just a single carbon-based life-form.”¹⁵ That life-form is humanity, and “the evidence is very strong that intelligent life is restricted to a single planet”—Earth, hosting an “extremely fortuitous accident.” To avoid our planet’s inevitable end, should interstellar travel become possible, it will only be humans populating the galaxy and perhaps the entire cosmos. Consequently, this view is a *prima facie* dismissal of the ETH and all related evidence from other sources.

One might conclude that the discovery of so many exoplanets and the new calculations of the number of Earth-like planets in habitable zones makes a unique Earth hypothesis seem rather quaint. In a proposal for seeking signs of life on Earth-like exoplanets, Suto (2006) noted that “...the emergence of life itself may not be such a rare event as long as the relevant environment, which we do not yet understand exactly, is provided. A simple application of the Copernican Principle suggests that a large fraction of temperate planets with oceans and lands will inevitably develop a certain type of life.”¹⁶

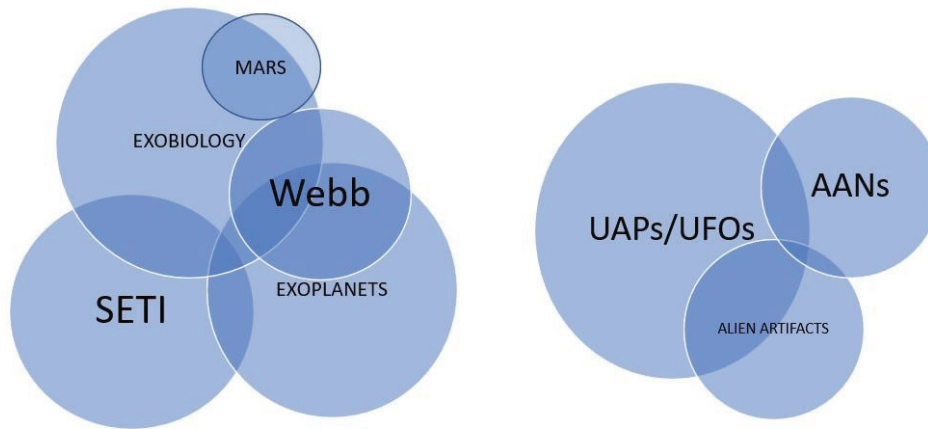
Building on the different models of investigation described above, we see the current state of ETH research in the following categories:

- Solar System Exploration (MARS)
- Exoplanet Detection & Sensing
- James Webb Space Telescope (Webb)
- Exobiology Research
- Search for Extraterrestrial Intelligence (SETI)
- Evaluation of UAP reports (UFOs)
- Alien Artifact Claims
- Alien Abduction Narratives (AANs)

¹⁵ Barrow and Tipler, p. 3.

¹⁶ Suto, p. 2 [2006.11451] Beyond a pale blue dot: how to search for possible bio-signatures on earth-like planets (arxiv.org).

Using a two-culture model, types of claims can be diagrammed as shown in Figure 1:



Areas of study are shown as scientific organizations and professions (etic); and individual, small group, and private organizations (emic) that collect information in the UFO and AAN categories. Generally, the findings in the emic categories have little apparent impact on the projects in the etic categories. However, it is highly likely that any positive finding in an etic group could have an amplifying effect on narratives in the emic groups.

We must ask whether the narrative information developed on the right side of this diagram--of which there is an abundance--can have any impact on solving the ETH. The scientific approach to the ETH demands the sources on the left be considered as the primary data in approaching this problem. Hynek also bracketed the right-side categories as not meeting his eyewitness criteria.

On the right side of the diagram, there are an almost unlimited number of proposed hypotheses, and most of them are non-disconfirmable (Scribner, 2003). The problematic nature of AAN research derives from approaching the phenomenon from any context that includes a predefined set of assumptions: physical, psychosocial, or religious. In almost seventy years of AAN research, these approaches have produced a stalemate instead of additional clarity. Yet even the possibility of hoax and deception does not cause interest in the phenomenon to recede. To be objective, even a psychological approach should be based what is known: human narratives, human values and human behaviors, not speculation. It must consider these narratives in terms of what is human within them, rather than shift from one theoretical context to another--ground *much treaded by others--without resolution*.

Some UFO researchers are loathe to hear psychosocial interpretations of the AAN phenomenon (Jacobs & Shermer, 1998). If AANs are demonstrated to be psychological--subject to theories of cognitive and emotional development—they might lose appeal as either “real” physical science or “true” spiritual revelation. Despite professional psychology’s century-long quest for acceptance, its explanations are still perceived to hold a lower credibility than those of the physical sciences. However, deep psychological roots are tapped by UFOs and AANs, and our current psychological tools may not be fully adequate to investigate their implications. For example, self-worth can be enhanced through identification with superior beings (alien or otherwise). The belief that “I’ve

been selected since childhood” implies specialness and provides a cosmic context for a unique individual life.

Intense emic debates have arisen among “those who believe” claims of alien contact but who differ about the intentions of “visitors.” One faction fears imminent invasion or human-alien conspiracies or both (represented by Budd Hopkins, Jacques Vallee, and David Jacobs); another camp welcomes alien “salvation” (Leo Sprinkle, Edith Fiore, Richard Boylan, and perhaps John Mack); and a third group remains neutral about alien intentions (Raymond Fowler and Whitley Strieber). These differences may presage forms of UFO religious group such as the Aetherius Society (Scribner & Wheeler, 2003). The religious issues are discussed at length by Lewis and others in *The Gods Have Landed* (1995).

In their disputes, many believers and debunkers alike may impose implicitly materialist interpretations on the same phenomenological gestalt. Both sides try to hold their ground as champions of *common sense*, whether about flying saucers or swamp gas. However, each side focuses its energies on some specialized forensic and scientific method or theoretical framework, which narrows their attention away from the totality of the human experience. In other words, all sides can become hypnotized by their methods. The result is little movement toward a definitive determination of actual First Contact.

Heavens Above

In evaluating witness credibility, we must also consider the increasing societal awareness of cosmological discoveries for both UAP/UFO and AAN narratives. Although humans studied the skies for millennia, the concept that “the heavens” is a vastness of space and not a mythological realm of gods and angels has occurred mainly during the last 500 years. Before astronomy became independent of astrology as a realistic and materialist model of the sky, the primary cosmological models were the mythological—derived from earlier conceptions of a living Nature--and Plato’s idealism, which taught that what we see are mere shadows of a hidden reality. Today one still hears the expression, “Heavens above!,” “the Man upstairs,” and so on; and “ascending into Heaven” remains a religious concept. The dramatic change in our modern conception of the sky acts as a primary evolutionary motivator in the search for and expectation of extraterrestrial life, and especially the prospect of intelligent, technologically advanced “aliens.”

Carl Sagan, writing in the popular magazine *Astronomy*, noted that the ancients “understood that five, and no more, of the bright points of light that grace the night sky” moved along with the Sun and Moon. “These seven were important to the ancients, so they named the wanderers after gods--not any old gods, but the chief gods...”¹⁷ The sky was the realm of what Rudolf Otto described as the *Mysterium tremendum et fascinans*, a numinosity beyond human understanding, or as Otto described the numinous, as “wholly Other.”¹⁸

With increasing study and attention (*fascinans*), the heavens began to resolve into an object of observation. The movements of the “wanderers” were found to be predictable, and this knowledge

¹⁷ Carl Sagan, “The First New Planet,” *Astronomy*, March 1995, p. 35.

¹⁸ Rudolf Otto, (translated by John W. Harvey), *The Idea of the Holy*, Oxford U. Press, 1950 ed., p. 25f.

eventually appeared in Ptolemy's monumental *Almagest*¹⁹, the dominant cosmological perspective that reigned for twelve centuries. This anchored a certain concept crucial to the changes to come:

*And so, in general, we must state that the heavens are spherical and move spherically; that the earth, in figure, is sensibly spherical also when taken as a whole; in position, lies right in the middle of the heavens, like a geometrical centre; in magnitude and distance, has the ratio of a point with respect to the sphere of the fixed stars, having itself no local motion at all.*²⁰

With the Copernican Revolution,²¹ the moving earth was initially considered only as a convenient fiction for computational purposes. "Authors who applauded Copernicus' erudition, borrowed his diagrams, or quoted his determination of the distance from the earth to the moon, usually either ignored the earth's motion or dismissed it as absurd."²² Interestingly, Kuhn notes that questions that were raised by theologians could be seen as the seeds of a new predicament: Are we alone in the Universe? Kuhn writes:

*When it was taken seriously, Copernicus' proposal raised many gigantic problems for the believing Christian. If there were other bodies essentially like the earth, God's goodness would surely necessitate that they, too, be inhabited. Worst of all, if the universe is infinite, as many of the later Copernicans thought, where can God's Throne be located? In an infinite universe, how is man to find God or God man?*²³

As documented by Ramon Mendoza,²⁴ these questions were to be challenged head on by the remarkable thinker of the Copernican era, Giordano Bruno. "Copernicus unquestionably had dealt a very serious blow to humankind's insatiable need for centers...[but]...The decisive blow to mankind's desperate need for security" came from its fiercest advocate, "The first man in European post-medieval history to formulate explicitly and clearly that the universe has no center..."²⁵ His doctrine of the infinite universe, multitude of suns with their own planets, possibly inhabited, and the lack of any centrality for earth or Sun pushed the ending of a geocentric cosmos across the philosophical threshold that had held since Aristotle. It also earned him eventual execution, burned at the stake in February 1600 CE.

Observational astronomy would eventually confirm and expand on these early intuitions. Galileo's discovery of moons around Jupiter is usually cited as the breakthrough observation that settled the concept of "other worlds." However, an even greater discovery seems often overlooked. As translated, "The next thing I observed...the Milky Way. With a telescope this can be perceived so palpably that all the disputes that have tormented philosophers for so many centuries are quashed by sheer ocular proof...Point your telescope in any direction within the galaxy and at once a great mass of stars comes into view."²⁶

¹⁹ After the Arabic for "the greatest."

²⁰ Ptolemy, *The Almagest*, Great Books edition, U. of Chicago, 1952, p.7.

²¹ Thomas S. Kuhn, *The Copernican Revolution*, MJF Books, 1985.

²² Ibid, p. 186.

²³ Ibid, p.193.

²⁴ Ramon Mendoza, *The Acentric Labyrinth*, Element Books Limited, 1995.

²⁵ Ibid, p. 73.

²⁶ Galileo Galilei, "Neither Known Nor Observed by Anyone Before," (translated), in *The Book of the Cosmos*, D. Danielson, (ed.), p. 152.

Carl Sagan elaborated on this theme in his article:

*It was with a real sense of surprise that people in 1781 heard about a new planet discovered through a telescope. New moons were comparatively unimpressive, especially after the first six or eight. That there were new planets to be found and that humans had devised the means to do so were both considered astonishing. If there is one previously unknown planet, there may be many more...*²⁷

An Accelerating First Contact Zeitgeist

During the 19th Century, historical momentum toward a possibly inhabited universe continued to gain traction with Darwin's evolutionary theory, suggesting a plausible template for life developing elsewhere. At the end of that century, an astronomer named Giovanni Schiaparelli thought he was seeing canals on Mars, and this view was advanced by another astronomer, Percival Lowell, who took the position that the only logical conclusion was evidence of engineering, and thus intelligence, on Mars. Interestingly, H. G. Wells' War of the Worlds, published in 1897, and would be "one of the earliest stories to detail a conflict between mankind and an extraterrestrial race."

The anticipation of contact with—and fear of—extraterrestrial life was brought into vivid focus in 1938 by Orson Welles. His Halloween radio program "caused some listeners to believe that an invasion by extraterrestrial beings was in fact occurring. Although reports of panic were mostly false and overstated."²⁸ This could also be cited as an instance where "set and setting" contributed to attributions that otherwise would have been dismissed, as the program started with a clear disclaimer of legitimacy as a dramatization.

Reports of unidentified aerial phenomena (UAPs) have proven elusive objects of study even when sponsored by governmental agencies around the world.²⁹ The most recent report from U.S. Office of The Director of National Intelligence reached essentially the same conclusion as all the other studies:

*Although most of the UAP described in our dataset probably remain unidentified due to limited data or challenges to collection processing or analysis, we may require additional scientific knowledge to successfully collect on, analyze and characterize some of them. We would group such objects in this category pending scientific advances that allowed us to better understand them.*³⁰

Despite a history of disparaging comments from official sources, UFO sightings have persisted in abundance. Following the first widely publicized appearances over Mt. Rainier, Washington, and Roswell, New Mexico, as investigators collected more reports, a public format of those seeking answers coalesced into various investigative NGOs collectively known as *ufology*. Collecting many more incidents and generating a huge volume of popular publications, ufology has seemed

²⁷ Sagan, Ibid, p.37.

²⁸ https://en.wikipedia.org/wiki/Orson_Welles

²⁹ David Tormsen's ListVerse article, "10 Official Government Programs That Studied UFOs" found at: <https://listverse.com/2015/03/23/10-official-government-programs-that-studied-ufos/>

³⁰ <https://www.dni.gov/files/ODNI/documents/assessments/Preliminary-Assessment-UAP-20210625.pdf>, p.6.

in a constant search for more suggestive evidence. The principal result has been the widely believed conjecture that UAPs are signs of alien visitations and contact.

Geocentric belief systems stand to lose credibility when extraterrestrial life becomes a public matter. Many religious people still strongly feel that Earth is a unique center of cosmological destiny, wherein God will remake the heavens and earth in an apocalyptic moment.³¹ Some see UFOs as demons working for “the Enemy” or as the opposite, angels working for God (Graham, 1994). The shadow cast by these conceptions is seen in a framework of analysis that usually begins with the question, “Do you *believe* in UFOs?” Science cannot run the risk of acting as simply another belief system.

From Experience to Investigation

Ufology must depart the arena of belief and individual experience and instead work from and toward a public consensus in verifying the ETH or First Contact. Alien contact would profoundly affect everyone on the planet, so the search for an answer to the UFO enigma is everywhere equally important to everyone. To this end, investigations of anomalous phenomena must employ methods that are specified *before* a report is made. By bringing psychological methods and approaches (such as neurophysiology, social cognition, and narrative theory) to UFO and AAN data, we respect the subtleties of human experience and consider data that many interested parties have arbitrarily excluded, keeping the door open to future discoveries.

We have contended that alien abduction narratives are given little credibility in part because investigators have become dependent on less reliable methods to analyze their results (Wheeler & Scribner, 1995; Brookesmith, 1995). “Recovered memories” are prominent in the discussion about alien abduction narratives because this is one cornerstone of the AAN edifice. There are many forms of psychological trauma, and their origins and outcomes vary widely. A schizophrenic can be traumatized by a psychotic episode. A dreamer can awaken horrified and be unable to sleep again even without evidence of any unusual environmental changes. These private forms of trauma can be traced to brain disease or dysfunction, but they are nonetheless still traumatic to the individuals involved. In most AAN research so far, the primary emphasis has been on detailing the various narratives recalled by subjects under hypnosis or through spontaneous revival of memories made “valid” by criteria of “consistency,” “sincerity,” and the ostensible presence of psychological symptoms of traumatic stress.

Much so-called evidence for anomalous trauma comes from anecdotal recollections of hypnotized witnesses and from “recovered memories” uncorked by researchers who have shown less interest in questioning their own methods publicly than in benefiting from book and movie deals, for which they have been criticized by UFO researcher Jacques Vallee (1995).

Storytellers--as we prefer to call those whom other researchers have variously labeled *contactees*, *abductees*, or *experiencers*--have made claims that are questionable from a scientific perspective. These claims are typically relegated to the Metaphysical and New Age sections of bookstores;

³¹ Joshua M. Moritz, “Big Bang Cosmology and Christian Theology.” Ch. 17 in *Theology And Science: From Genesis to Astrobiology*, Joseph Seckbach, Richard Gordon (Eds.), 2018, World Scientific Publishing Co.

however, given a certain set of historical circumstances, growing credence in these reports could result in significant social upheaval.

No specific case that claims eyewitness contact with extraterrestrials--whether a hostile abduction scenario or a euphoric Space Brother rapture—currently confirms the ETH to the satisfaction of the entire research community, including scientists in all relevant areas. This fact implies at the very least that the investigations are incomplete or can be dismissed by most scientists as spurious and of no value in disconfirming the null hypothesis (the view held by most scientists). In the latter case, we are more likely dealing with a psychological phenomenon of a type that still holds a controversial place within the consensus reality of normal science (Kuhn, 1962).

Descartes' Evil Genius argument serves as a caution to those who would have us believe that our scientific research is ineffective because “they” can outsmart us at every turn and hide their presence until they are ready to be revealed. Typically, governments are assumed to be complicit in this scenario. Such a self-contradictory stance implies that no research can be effective, so by implication, no research would be useful. If an Evil Genius hides purposefully, then he must exist. Case closed.

We must not yield to closed-system models. A scientific approach always must begin with the null hypothesis: that there are no aliens visiting us in the night, therefore all contacts and sightings most likely have a natural or psychological explanation. When the null hypothesis is proven wrong with a less than significance chance that the proof itself is false, we will have crossed the threshold in proving contact, and we can claim an end to doubt. At present, AAN narratives from recovered memories cannot sustain this criterion. This is the same criterion that any individual must use in judging his or her own subjective experience. How likely is it that what one believes happened ‘actually’ happened? How open is the reporter to alternative explanations for what they believe?

The Alien Fears study (Scribner, 2003) proposed that an alien abduction narrative can act as a “meme container” for a matrix of very human fears. By bracketing the question of UFO sighting reports as a forensic domain, the Alien Fears study examined five prominent public AAN texts and proposed a Storyteller-Narrator model, including a non-linear chronological structure to examine their social salience and transmission. The 2003 study concluded that AANs (specifically) are created and propagated through society because they address personal and social values and concerns for their storytellers, narrators, and other members of society at large. This study also developed a social transmission model which has since been expanded to detect specific linguistic data and media imagery that compose AANs (Scribner & Wheeler, in press).

It is time for an original approach in ufology and especially for the study of narratives of human-extraterrestrial contact. This requires an approach which neither dismisses unusual narratives out of hand nor invests claims with presumed credibility. For example, researchers might seek out and interview persons who narrated an alien abduction experience who later, with time or therapy, came to a different interpretation of events.

A scientific ufology must have as its highest priority to establish its conclusions about UAPs and AANs in the most transparent manner. Ufological researchers must extend their communication beyond the converted and claims to “aliens among us.” For ufology to earn scientific status, the

improvement of its standards and methods is overdue. The challenge is considerable. Funding for this kind of intensive research is difficult to obtain, in part because the chimeras of illusion may prove more profitable than the discipline of the null hypothesis. Where is the appeal and political fervor to fund a research proposal that begins with the appropriately tentative scientific assumption that there are no alien visitors? Despite no currently accepted confirmation of exobiology or ETI, the scientific community is dedicated to finding the answer. A true First Contact Science would do well to take this same road and apply its own methods in search of an answer.

A validated UFO report or alien abduction narrative has the potential to be a pivotal “working fact” for the disciplines of ufology or psychology or both. Carefully chosen cases, using pre-established criteria, should at least receive the special professional research attention afforded a criminal investigation. The payoff comes whether we reach certainty with the best methods we have or gain greater knowledge of human psychology and belief formation from each attempt. We may confirm a First Contact during the process. The best service we can perform is to investigate with the thoroughness of the laboratory scientist, the practical awareness of the forensic investigator, and the sensitivity of the clinician. Without all three approaches, we are still chasing shadows on cave walls. Plato already warned us about that.

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Forensic Cognitive Science and the UFO Phenomenon

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Abstract: The principles of forensic cognitive science, especially those of eyewitness cognition, are critical for our understanding of witness testimony in the UFO realm. This paper will focus on important aspects of eyewitness cognition and the UFO phenomenon, with special reference to the processes governing cognitive reconfiguration as it is typically observed in research on forensic cognitive science. The paper will also address the importance of individual psychological differences in the mediation of these processes. Finally, we will discuss how the principles of modern cognitive science are instrumental in explaining the generation of UFO/Space Alien observation and ideation, in both the scientific and popular realms.

Keywords: Eyewitness memory, UFOs, Forensic cognitive science

Introduction

Enormous strides have been made over the last century in our understanding of eyewitness cognition. Beginning with the early inquiries of Munsterberg¹ and continuing in the groundbreaking work of Loftus,² scholars have since made very significant inroads into the arcana of the eyewitness realm.^{3,4}

The principles of eyewitness memory, however, go far behind the immediate arena of witnesses to specific crimes. These principles have far-reaching implications for virtually every area of forensic cognitive science. Officer-involved shootings and other tactical decisions, for example, are based on the given officer's *eyewitness memory* of the given tactical situation; a "shoot/no-shoot" response, in any given case, is governed by the dynamics of eyewitness cognition in terms of the officer's observation and interpretation of the situation.⁴ In another example, the detection of improvised explosive devices (IED's) involves the same eyewitness dynamics. An IED can be hard to detect, whether disguised, hidden, or even in plain view;⁴ but whether an explosive device is perceived and correctly identified or not depends on the *eyewitness performance* of the observers who perceive it. An enduring truth in experimental psychology and neuroscience is the fact of *continuity in the nervous system*. Correspondingly, the principles of the eyewitness realm are clearly relevant to far broader areas in criminal justice and forensic psychology, and beyond into other fields of research; and this is emphatically the case with the extension of these principles into paranormal arenas, including those concerning unidentified flying objects (UFOs).⁴

Recent research shows that the dynamics of the eyewitness realm extend very firmly into several realms of the *paranormal*, including, for example, Bigfoot and the Loch Ness Monster, ghosts and spirits, and of course unidentified flying objects (UFOs) and the Space Aliens who putatively drive them.⁴ It is important to emphasize this principle of *continuity*; assuming that UFOs are not actually the alien spacecraft of popular belief, it is reasonable to explore the psychological continuity of UFO phenomena with beliefs and ideation surrounding other paranormal concepts, rather than to attempt to explain UFOs in some form of concrete, objective physical reality.

In my California State University laboratory, my research students and I have conducted a series of experiments on this issue, the extrapolation of eyewitness principles to UFO and related “paranormal” phenomena.⁴ This research has been specifically concerned with integrating the principles of eyewitness memory with more general issues of cognition, such as interpretive processes, and with bringing this relatively new, more unified perspective of forensic cognitive science to bear on questions pertaining to UFO phenomena.

This approach has been productive; for example, as discussed below, it is now possible to ascertain the individual psychological differences which contribute to belief in UFOs or space aliens, by comparison with individual differences which contribute to belief in other aspects of the paranormal. We can also demonstrate the direct effects of these tendencies and beliefs on the *perception* of UFOs, as well as on the relevant beliefs. We can even show how these perceptions, and their interpretations, may be created in the laboratory.

The purpose of this paper is to discuss these findings within the larger corpus of UFO witness psychology from a forensic cognitive perspective, and to consider these issues under the aegis of broader cognitive and related psychological principles which pertain to the UFO phenomenon. We will begin this inquiry with a critical basic question: How do UFO perceptions and interpretations arise at all, and how has the topic become so popular?

The Modern Spread of the UFO Phenomenon: Nomenclature

As in any forensic inquiry in the criminal justice system, we begin with the issue of nomenclature and the definition of terms: exactly what is meant by the term “UFO?”

This type of issue is by no means as simple as it first appears, as we can readily see in the forensic cognitive realm in criminal justice. In the judicial realm, language is often manipulated to produce a mental set favorable to one side or another of a given criminal case. (A relatively recent example involved the characterization of a physically powerful, extremely violent strong-arm robber as a “precious child,” since at the time of his crimes he was only nineteen years old. There are many other examples⁴).

Similar verbal manipulation can surround the term “UFO.” In the broad sense, a UFO is anything we cannot identify that happens to be overhead. This would include all sorts of natural astronomical phenomena and might even include some birds in a sense, if the given observer can’t tell what kinds of birds they are. This means that, by a definitional trick, practically anyone can be included in the vast gamut of “UFO observers.” One can see a UFO, in this technically correct sense, without believing in aliens or flying saucers at all; but just as a physically powerful adult criminal can be included in the category of “precious children” due to his age of 19, the highly improbable alien starship can be smoothly incorporated into the vastly larger, familiar, and more believable category of things overhead that we simply can’t identify.

The use of an overly broad concept (in this case, things one can’t identify in the sky) to imply the necessity of belief in a specific, potentially doubtful *subclass* of that concept (alien spaceships) is not a modern invention; it was well known to the unscrupulous Sophists repeatedly confronted by Socrates in the Platonic dialogues.⁵ And in the modern world, this sophistic trick is not confined to the courtroom. It is easily observed in virtually any gathering or media presentation

devoted to UFOs and the “paranormal.” Since UFOs are by definition unidentified, the basic concept that they may very well be alien spacecraft is easily promulgated if more parsimonious potential explanations are ignored; this may involve the “leap of faith” held by Shermer to be characteristic of some religious experience.⁶ The nascent believer may experience something like this: since UFOs seem to be alien spacecraft, and since I, too, have seen things in the sky I can’t identify, it’s a good bet that these unidentified things are flying saucers; and with repeated investment in such a concept, the given believer may begin increasingly to value and adhere to his or her space alien beliefs through the phenomenon of *cognitive dissonance*,⁷ in which repeated strong emotional investment in the concept may render UFO beliefs increasingly impervious to logic and evidence.

As is the case in the forensic realm, linguistic fallacies and distortions can be used in the creation of UFO believers and the maintenance of UFO beliefs. But when we go beyond such issues, using the term UFO in *normal popular parlance, referring to an alien spacecraft*: what psychological processes could support such UFO beliefs?

The Modern Spread of the UFO Phenomenon: The Availability Heuristic

Believers in UFOs as alien spacecraft may be influenced by the fallacy discussed above, or by related logical fallacies. They may have seen a satellite, or a meteor, or a night-flying bird they could not identify as such, and they may have used this sighting as what might be termed a “gateway” observation to venture further into the realm of UFOs and space aliens. This possibility deserves further inquiry, currently under preparation in my own laboratory; but there is another important cognitive phenomenon at work here, the *availability heuristic*. This is the concept that *we evaluate the probability of an event by judging the ease with which relevant instances come to mind*.⁸ We see this repeatedly in the forensic realm, in which people may take perspectives on crime which have no basis in reality, but which are repeatedly promulgated in media.⁴

Consider a phenomenon comparable to the UFO realm: belief in Sea Monsters. At least in the United States, cable and satellite television very seldom broadcast anything about sea monsters, and when they do, in this writer’s subjective experience of typical U.S. television, it’s usually a rerun of a laughably nonsensical program on mermaids.

However, UFOs and the aliens who drive them are a different story. A major cable/satellite network broadcasts a specific Alien program *for at least an entire day every week*. Other networks have joined them with a constantly-broadcast smorgasbord of UFO/alien programs, including a relatively new one starring a former Disney child-actress who sang the song *I Love Me*. For Americans, at least, space aliens and UFOs are ubiquitous in media. Sea monsters are not.

So here we see the influence of the availability heuristic.⁸ In popular media, few sea monsters are seen, and so the average person has no time for unknown creatures of the deep. We have *available* to us many, many media references to UFOs and Space Aliens, and very few to sea monsters. Our perceptual and interpretive abilities operate on that information correspondingly. We don’t believe in the Loch Ness Monster. We believe, so to speak, in UFOs and aliens, without a shred of corroborative physical evidence.

In view of this consistent UFO broadside, viewers are continually and ubiquitously bombarded with UFO material. In this environment, the availability heuristic operates to provide the average viewer with a continuous *cognitive framework*⁹ for the acceptance of UFO ideation; and under these conditions, we would anticipate that many otherwise rational people would wander down the UFO path into the ranks of the true believers.

At this point, we have made use of comparative consideration of beliefs in UFOs and sea monsters to demonstrate the importance of the availability heuristic in the promulgation of the relevant beliefs. Yet there is another reason to discuss this comparison here. Thus far we have considered only psychological issues in the UFO phenomenon; but this specific comparison, sea monster to UFO, assumes special significance when we consider these psychological concepts with direct reference to what can be demonstrated physically in these two specific arenas.

UFOs in Physical and Cognitive Contexts

Many people believe in UFOs as alien spacecraft. This leads to the critical question of legitimacy. Can one legitimately believe in UFOs, in this sense? What actual evidence is there of alien spacecraft in our skies, and of alien astronauts among us?

Let us continue this inquiry, as above, with the concept of sea monsters in comparison. Can one legitimately believe in sea monsters, a similar paranormal concept? Well, the Colossal Squid (*Mesonychoteuthis* sp.) was only first described in 1925, and an adult specimen had to await confirmation until 1981.¹⁰ By any normal human standard, it's monstrous, and it does live in the sea. So, we could make a case for calling it a "sea monster," unknown prior to the twentieth century. So, some "sea monsters," under this type of definition, can be shown to exist. QED.

Granted, no one has turned up with any specific mythological Sea Monster specimens, such as the Loch Ness Monster or the Kraken, and no one is going to; but the fact is, we do have physical specimens of large, previously unknown creatures of the sea; "sea monsters," if you will. These specimens are available for rigorous scientific inquiry, and if a given theorist wishes to refer to these animals as "sea monsters," so be it; such creatures have been discovered, and there may be others out there, presumably awaiting discovery by those with sufficient temerity and a reasonably large boat. Probably nothing mythological, i.e., the Loch Ness Monster or the Kraken of legend; but something like another very big squid is a very real possibility.

So, big sea animals, "sea monsters," have been shown to have a real, if prosaic, reality; but in informal polls in my college classes, I have found that most of my university students simply don't believe in sea monsters. Large unknown animals in the sea, for most of my students, are mythological in nature.

However, *large numbers of those same students endorse a belief in UFOs as alien spacecraft*; and what is remarkable about this observation is that *we have not a single shred of confirmed physical evidence of UFOs*, or of the aliens who putatively drive them. Myths and rumors, yes; typically, vague photographs or digital images, yes; physical evidence, no. Although we have confirmed lumps of Colossal Squid here and there in various laboratories, *there simply aren't any*

bits of alien spaceships about; and, as discussed above in term of linguistic custom and usage, when we say “UFOs,” we’re talking about alien spaceships.

This is a huge problem. Large numbers of putatively modern people are very solid believers in a concept, the UFO-as-spacecraft, *of which there is no hard physical evidence of any kind anywhere*.

So how is it possible that so many people claim to be “eyewitnesses” of a phenomenon that, as far as physical evidence is concerned, does not exist? The believer in sea monsters can point to the Colossal Squid. Aside from some questionable images and hearsay, the believer in UFOs and Space Aliens can point to nothing at all.

Physical evidence of UFOs is nonexistent. The reality of UFOs, as far as we can tell, is therefore entirely cognitive. But what cognitive processes support belief in their existence?

UFOs and the Reconfiguration of Eyewitness Memory

As discussed above, accounts of UFOs rely on eyewitness memory. Eyewitness accounts are rendered by a person, or by a group of people, of something they believe they have seen. This is true of all types of eyewitness accounts. In the forensic realm, eyewitness testimony concerning a mugging or robbery, wherever it occurs, is governed by the same psychological dynamics; and *the same eyewitness dynamics govern eyewitness accounts of spacecraft and aliens*, wherever they occur. *There is continuity in the nervous system*; and the same principles govern accounts of murder or Martians, felonies or flying saucers.

Therefore, criminal investigators and scholars of UFO phenomena are in the same situation. We must ultimately refer to eyewitness accounts; and thus, we must refer to the fallibility of human memory.

This fallibility is distressingly real. Human memory is *amazingly* fallible; but if you discuss this with the average human being, *there is typically very little public awareness of memory’s fallibility*.

Having served as a consulting investigative psychologist in nearly two hundred cases, most involving serious violent crimes, the present writer can attest to the typical popular attitude toward memory. The average citizen (or juror) well understands that human memory is fallible; but there is typically a tendency to believe that *this fallibility is very limited*, that it lies only in the occasional omission of details, with the major elements of the memory remaining relatively accurate.

Outside the realm of the psychological specialties, a typical view of memory might operate something like the following analogy. If memory were to be seen as a jigsaw puzzle, the process of forgetting might turn the puzzle upside down and shake a few pieces out of the puzzle picture. The completed puzzle might have depicted a farmyard or a mountain, and now there are some pieces missing; but even though a few bits may be missing, thinks the average juror, the witness can still make out a farmyard or a mountain. The basic concept, as the present writer has seen in

many cases, *is that fundamental memories remain intact*, with the inconsequential exceptions of a few minor details deleted by the forgetting process.

Yet even a cursory examination of the psychological literature shows that this supposition is very far from the truth. As the pieces of the puzzle “fall away,” so to speak, the mind does not necessarily retain a picture of either a farmyard, or a mountain. The configuration which remains, in the elastic memory of the given witness, *may have been changed into another thing entirely*.

Nearly a century ago, Bartlett¹¹ demonstrated that *human memory is not stable*. It cannot be conceptualized as something like a jigsaw puzzle, with reference to a few bits and pieces being dropped out, “forgotten” in normal parlance. Memory defies simple physical analogies; it is a biological process, with all the complexities inherent in such a process.

To begin with, *human memory is not static*, albeit with a few bits forgotten. Bartlett¹¹ demonstrated that human memory is amazingly friable; it changes in three major directions. These three directions are *brevity, gist, and popular belief*.

Bartlett showed that, as is popularly supposed, details tend to be lost from memory. This results in the direction of *brevity*; fewer details, to the sorrow of every detective or investigative psychologist, result in a briefer, relatively impoverished account of whatever actually happened in any given situation.

But this loss of detail means much more than might be supposed. It means that what is retained in any given memory is only the *core* or *gist* of the actual situation. For example, if robbed by a given criminal sporting jeans, a leather vest, a series of tattoos and a spiked hairdo, and armed with a Ruger SP-101 revolver, the victim may remember nothing more than a “bad guy” with a “gun”; the prospect of effective judicial action is thereby lost. These losses of detail, inherent in the normal brevity of Bartlett reconfiguration, result in increasing mnemonic reliance on *gist*, on the core memory of a bad guy with a gun; and the chances of apprehension of the correct perpetrator are correspondingly reduced.

Yet there is a third factor contributing to memory configuration in the forensic realm. It is probably the most disturbing factor demonstrated by Bartlett: there is reconfiguration in the direction of *personal belief*. Bartlett demonstrated this in both the visual and verbal realms. In one well-known experiment, he showed respondents a highly abstract picture, *Portrait d’Homme* (Portrait of a Man), and told them the title. Bartlett then requested that his respondents draw the figure they remembered, repeatedly and over time.

Armed with nothing more than the knowledge that they were supposed to be drawing a portrait of a man, Bartlett’s respondents re-drew the highly distorted, geometric image, more and more, *as a naturalistic picture of a male face*. The representations became ever more face-like with each repeated drawing; and although this early finding has been questioned in some modern research,¹² Bartlett’s initial results showed that respondents’ belief in the initial geometric graphic as a portrait of a man *caused their memories to shift in that direction*, toward a more

naturalistic picture of a human face with each subsequent reproduction. Several other experiments in Bartlett's research converged on a similar conclusion.

It is important to understand that *this phenomenon did not derive from intent*; respondents apparently believed that their more naturalistic renderings, completely divorced from the stark and geometric original, *represented their actual memories of that original*.

In the verbal realm, among other experiments, Bartlett used a Native American story, rendered in the rather stilted language of an anthropological translation. Not only did his respondents remember the language in much more fluid, colloquial terms than they'd seen in the original, consistent with their linguistic idiom and their cultural beliefs and understanding, but, as British subjects, their memories were rendered in terms of twentieth-century British beliefs, frequently overwhelming the story's Native American elements. Their prior framework for understanding,⁹ in their accustomed roles as British subjects, *reconfigured the original cultural elements of the story*. This occurred to the extent that the motivations of the protagonists of the story were interpreted in British rather than Native American terms, through the lens of their own culture rather than from the original viewpoint.

Bartlett's groundbreaking research demonstrated a fundamental cognitive law: *our beliefs literally change our memories*. Bartlett's results clearly demonstrate this fact; and although elements of Bartlett's work in the visual realm have been challenged in more modern research,¹² major factors he identified, at least in the verbal realm, have been replicated in modern times.¹³

Therefore, in the verbal realm of UFO accounts, we can expect Bartlett reconfiguration in all three identified directions—brevity, gist, and personal belief. All of these will contribute to the prior frameworks for understanding within which we will interpret the idiosyncratic characteristics of individual “UFO experiences.”⁹

So, eyewitness memory is *changed by our prior frameworks for understanding*,⁹ by the ways in which we are predisposed to interpret memories. This factor of course applies to memories of UFO observations as well. But how powerful is this effect?

In my laboratory, we conducted the first known studies designed to elicit a field-valid *taxonomy* of eyewitness memory, a classification of the error types made by respondents in the consideration of field-valid crime situations.¹⁴ In that research, dealing with crime scenes of types typical in the modern United States, we discovered that the most common error types, under emotionally neutral circumstances, were errors of the physical appearance of the perpetrator. The average person made almost two errors of this type per scene (188%), under ideal conditions of normal, everyday arousal. The normal, everyday human brain, confronted with a given situation of interest, can therefore be expected to yield approximately two *errors of appearance*.

Several other error types (environmental errors, errors of perpetrator race and sex, weapon errors, and so on) were identified in this work.^{4,14} However, the *second* most frequent error type is the one which claims our attention here. The average respondent made *one and a quarter (124.5%) errors of the imagination*. In other words, under no situational stress which might have impaired

mental acuity, average people *simply made at least one thing up per person*; and they had no idea that they were doing so.

Now, if an individual observes an unidentified object in the sky, his or her beliefs are likely to reshape that object according to those beliefs. If the observer's prior cognitive framework⁹ is one of UFO-as-alien-spaceship, the reconfigurative dynamics demonstrated originally in the general experimental realm,¹¹ and later confirmed for eyewitness memory in the realm of forensic cognitive science,^{4,14} are very likely to result in the reconfiguration of the given memory in the direction of increasingly spacecraft-like characteristics.

Yet this process is far from over. Individuals think about significant memories repeatedly over time. As we repeatedly process a given memory, whether a memory of a crime scene or of a UFO, errors of brevity, gist, and personal belief are made each time. Cumulatively, those errors *become part of the memory*; and if those reconfigurations occur within the context of a prior framework which tends toward the UFO-as-spaceship viewpoint, the cumulative errors could be substantial.

This effect was demonstrated in a study¹⁵ in which witnesses to a mock crime scene were repeatedly questioned, as is typically the case in either a criminal or a UFO investigation. At the first questioning, respondents, on average, gave approximately 3.5 correct responses for every error produced. However, by the second questioning, that ratio fell to 1.39 correct responses per error, and rose only slightly at the fourth; but at the third questioning, *the ratio was actually inverted*, yielding less than one (0.91) correct response per error. More mistakes than facts were elicited.

Obviously, the ratio of factual to confabulated responses will vary over any series of repetitive considerations of a given memory. However, this study demonstrated that the cumulative error effect, resulting from repetitive reconfiguration, can actually result in more falsehoods than truths surrounding any given memory; and this increase in error and false response can increase *with no awareness on the part of the witness*.

In fact, as briefly noted above,⁷ the witness may become increasingly confident and defensive about his or her memories with repeated recounting. Festinger and his colleagues⁷ examined a group who had surrounded a charismatic leader, and whose beliefs involved a divinely ordered rescue of the faithful by UFOs from a putative punitive flood. This flood, according to their beliefs and their leader, was to be visited upon the Earth by God in the winter of 1954; and even when no such flood occurred, the followers, in general, did not forsake their beliefs in UFO salvation. In fact, in many cases, those beliefs were *strengthened*. Some of the followers decided that they, personally, had Saved the Earth by their beliefs, and they were increasingly motivated to proselytize the gospel of alien saviors to others. These followers had developed such profound *cognitive dissonance* that to abandon their UFO beliefs was simply psychologically impossible.

This type of effect has occurred in more recent times.¹⁶ In the minor hysteria surrounding Mayan End-of-the-World concepts in 2012, it was shown that levels of belief in the return of the Maya god Kukulcan and related supernatural phenomena, in relatively educated American college

students, were completely unshaken by the god's failure to appear. The effects of cognitive dissonance are alive and well, in the UFO realm and related paranormal precincts.¹⁶

The relevance of memory reconfiguration and resultant confabulation, combined with the effects of repetition and of cognitive dissonance, is hard to overestimate for the realm of UFO accounts. If we can make things up, with no idea that we are doing so, in our observations of a crime scene to which we are emotionally indifferent,¹⁴ what might we do in the realm of a UFO observation in which we are emotionally invested? What dynamics might drive the identification of prosaic objects or phenomena as UFOs?

Individual Differences: Depression, Attention Deficit, and Dissociation in the Paranormal Realm

We began this inquiry with a field-valid question. What individual psychological differences might drive belief in paranormal things such as UFOs? Who is likely to believe in what?

For specific reasons discussed below, we examined depression, attention deficit hyperactive disorder (ADHD), and dissociation in this experiment.¹⁷ It is important to note that *none of these issues, in this population, lay at the clinical level*. Unlike many symptoms in the medical realm, people can exhibit different levels of depression, or ADHD, or dissociative tendencies at subclinical levels which may be largely undetected in their everyday lives. None of the people we examined exhibited clinical levels of these symptoms; but across the continuum of our respondents, the symptoms were there, albeit at subclinical levels.

Why did we address these specific subclinical conditions? We hypothesized that depressed people might be most likely to believe in ghosts and in space aliens (not in the aliens' *spacecraft*, in their UFOs per se—who, in a state of emotional distress, would care what the aliens drive?) But the space aliens themselves might, in the imagination of a depressed individual, compassionately take that person to a planet where things would be better; a planet where that person would be better understood, where the depression would lift.

We would therefore expect the depressed to believe in space aliens; and we would also expect to be predisposed to beliefs in *ghosts*, as putative evidence of an afterlife in which things might improve. An alien world, or Heaven—anywhere other than Here might be better for the depressed.

But, again on a field-valid basis, we would not expect persons with tendencies toward attention deficit hyperactive disorder (ADHD) to believe strongly in either the Ghosts or the Space Aliens. Granted, such entities might be moderately interesting to those with ADHD tendencies; but the frequent boredom with everyday life endemic to those with even subclinical tendencies toward ADHD would require more, a higher level of vicarious stimulation. Those with ADHD tendencies, we believed, would prefer starships with phasers blazing, and Bigfoot and the Loch Ness Monster lurking in the wilderness, available for discovery by any explorer with sufficient ADHD-based personal courage to confront the monsters in their lairs. Therefore, we suggested that those with ADHD tendencies would have no particular tendencies to believe in ghosts or Aliens; but they would tend to buy into UFOs and cryptid creatures with great fervor.

And this is exactly what we found.¹⁷ As measured by standard instruments, those who were depressed tended to believe in *ghosts* and *space aliens*. Ghosts imply an afterlife where things might get better, and the aliens might take you to a planet where you could be happier.

But those with ADHD tendencies did not, statistically, buy into concepts of ghosts or aliens. As suggested above, and at a statistically significant level, those with ADHD tendencies believed in *UFOs* and *Cryptids* (Bigfoot, the Loch Ness Monster, etc.), which might, as suggested, alleviate their boredom in the real world.¹⁷

This result may prove especially important for UFO psychology. We verified a *statistically valid psychological distinction* between those who believe in Space Aliens and those who believe in the UFOs in which those aliens putatively arrive. The depressed tended to believe in aliens and ghosts, but not in UFOs. Those with subclinical ADHD tendencies, even the subclinical tendencies which characterize a great many people, tended to believe in Bigfoot and such, and in UFOs; *they believed in the spacecraft themselves*, rather than in their putative alien drivers. There is a statistical void between these two respondent populations, those with depressive versus ADHD tendencies, a void which has not been previously explored.

This should be a topic of future psychological inquiry. We can distinguish, psychologically, between those who believe in the Space Aliens and those who believe in UFOs, the space vehicles in which the aliens putatively arrive. This statistical fact points rather dramatically to a *psychological* origin of space alien/UFO ideation, rather than to a physical one. Individual psychological differences may drive a given person to believe *either* in the alien pilot or in his or her spacecraft. The two concepts, alien pilot and UFO, *are not psychologically united*. In the complete absence of any hard physical evidence of either spacecraft or alien pilots, we must take very seriously the idea that *UFO/Alien ideation has its roots not in physical reality, but in psychological subjectivity*.

Yet this important distinction was not the end of this research. There was a third factor in this work, as mentioned briefly above: *dissociation*. Dissociative processes, again at the subclinical level, may be the most important psychological dynamics pertaining to witness factors in the UFO phenomenon: those who tended toward dissociation believed in *everything*.¹⁷

Bigfoot, the Aliens, the UFOs, the ghosts—the *dissociated were more likely to believe in all of them*. There were no distinctions at all.¹⁷ Dissociative processes were a very major factor in the production and/or support of paranormal and UFO ideation. But what exactly *is* dissociation?

Dissociation and UFOs

The term “dissociation” has a plurality of uses and definitions. We must be clear in terms of definition here. Emphatically, in this work, we are *not* talking about psychiatric concepts of dissociative identity disorder, or of pathological levels of dissociation in which psychotic ideation might figure. Rather, in this work we refer to *subclinical* dissociative tendencies, of the sort probably experienced, at least occasionally, on an everyday basis by practically everyone.

Dissociation, at a subclinical level, may lead us to doubt the nature of reality, at least for the moment. The world may seem unreal or diffuse at some level.¹⁸ Dissociation may lead us to

introspective states in which we ignore immediate reality, or to flights of fancy in which the improbable or supernatural becomes eminently reasonable and utterly natural. In dissociation lies the realm of the psychologically bizarre, and the ability to see the bizarre as ultimately prosaic.^{18,19}

However, some people have stronger dissociative tendencies than others,¹⁸ *and those with these dissociative characteristics may see prosaic reality as potentially fraught with supernatural meaning.* Space aliens, UFOs, cryptids, or spirits might lurk *anywhere* for the dissociated, perhaps hidden from the rest of us by vast government conspiracies.

So, dissociative tendencies can lead us to paranormal beliefs, including beliefs in UFOs and their putative Space Aliens drivers—but can these tendencies lead us to *see* them?

The answer is yes.²⁰

My research students and I showed respondents a series of static images. These included a piece of fabric, oddly illuminated but hanging from a clothesline; a teenager in a Halloween gorilla costume; and a helicopter landing at an odd angle in the dark, with its landing lights correspondingly placed.

Using a standard instrument, we evaluated the dissociative tendencies of our respondents in this experiment. Those with normal levels of dissociation saw exactly what you'd expect: a piece of laundry, a person in an ape costume, and an aircraft landing at night.

But for those with higher levels of dissociative tendencies, *these simple images formed a gateway into another world.*

For many of the dissociated, our piece of fabric became a ghost or a spiritual entity. The adolescent in the gorilla costume became Bigfoot, albeit with extra unkempt monkey hair; and the helicopter, landing lights askew, became a UFO.²⁰

Subclinical tendencies toward depression, ADHD, and dissociation, rife in the general population, can accentuate our beliefs in the paranormal.^{17,21} The depressed believe in aliens and ghosts. Those with ADHD believe in Bigfoot and flying saucers. *And those with dissociative tendencies frequently believe in all of it.*^{17,21}

But in our research to date, only dissociation had the power not only to influence *belief*, but also *perception*.

The dissociated didn't simply believe in UFOs. They *saw* them.

As we see in the forensic eyewitness realm, none of these perceptions derived from nothing, from an absence of stimuli. Perceptions and their interpretations are not created, so to speak, out of whole cloth. There must be something like an aircraft seen at an odd angle to make a UFO perception work, just as one may need a piece of oddly illuminated cloth to imagine a ghost, or a teenager in a gorilla costume to create a Bigfoot; but there are psychological principles which help individuals to do so. In our research, in the presence of subclinical dissociative tendencies,

a perfectly prosaic stimulus item such as a helicopter at night was easily transformed, in the mind of the dissociative witness, into an alien spacecraft.

As mentioned above, it is very important to emphasize that word *subclinical*. Dissociative tendencies are emphatically not “crazy.” All human beings experience some level of dissociation in their everyday lives; but as we see here, those with *more* dissociative tendencies may tend to see their world in vastly more paranormal terms. They not only *believe* in these paranormal things; they may *see* them, in stimuli that other people would perceive as everyday objects, or perhaps as hoaxes. But the dissociated are perfectly capable of seeing UFOs, of being eyewitnesses to alien spacecraft, when no such craft exist at all.

Thus, we see cognitive elements of the genesis of the UFO phenomenon. Those with subclinical tendencies toward depression, ADHD, and/or most importantly *dissociation*, observe everyday phenomena through a very different lens. For those individuals, everyday things may become, psychologically, UFOs and their alien pilots. Social factors and media coverage may mediate these processes further, using *language* and *availability* to produce the illusion of commonality, the idea that the Aliens and their UFOs are everywhere. Once people believe, *cognitive dissonance* may increase personal investment in those phenomena; and thus, we have UFO enthusiasts.

But can these psychological processes go even farther?

Individual Differences: The Question of Aviation Training

It is often asserted that pilots and other aircrew, with their aviation and systems expertise, are superior observers and interpreters of UFO phenomenon. However, several caveats arise in this consideration.

Pilots and aircrew obviously have expertise in matters pertaining to aircraft, understanding of aircraft systems and engineering, navigation, aircraft operation and so on. But does this specific expertise apply to areas outside those of aviation *per se*?

These questions were actually raised by Plato, obviously not in the realm of aviation, but pertinent, nevertheless. In the *Protagoras*, Plato²² points out that in building a wall, one consults stonemasons, whereas in the building of a ship, one consults shipbuilders. Both activities involve *building*; but the crucial differences arise in *what* is to be built. The relevant expertise is domain-specific, not universal across building activities.

Similar considerations arise in the consideration of aircraft piloting and UFOs. Both involve things and activities in the sky; but the crucial differences arise in precisely *what* sky-related things are to be observed and interpreted.

Pilots, and of course some other aircrew, have formal training in specific aspects of meteorology and astronomy, but typically with reference to the reasonable spectra of eventuality, to the types of phenomena that they are normally likely to encounter. However, UFO observations deriving from atmospheric or astronomical factors typically involve *abnormal* circumstances of astronomy and meteorology,²³ not the more typical ones in which aviators are normally trained; and unless the given aviators are also specifically trained in meteorology or astronomy, outside

the normal training for aviation professionals, their aviation training would not necessarily have any bearing on the relative accuracy of observation or interpretation. The ability to recognize different types of storm fronts and clouds, for example, may have no bearing on the ability to deal with the arcana of very atypical weather factors, any more than a knowledge of celestial navigation would lead a pilot to a knowledge of the misperception of Venus through industrial haze, or of the different types of stars on which navigation is based.

All of this may contribute to the fact that early in the modern study of UFOs, J. Allen Hynek,²⁴ a major participant in the U.S. Air Force Project Blue Book, found that pilots were in fact typically *worse* at identifying UFOs correctly than were personnel of many other occupational categories. Hynek found that on average, even the best single witnesses tended toward a 65% misperception rate. However, this rate climbed significantly for aircraft pilots. The misperception percentage rating was reported to be in the high 80's for both military and commercial pilots as single witnesses.

Aviation personnel may also have very different mental sets than do scientists and those specifically interested in the UFO phenomenon. As pointed out by Wolfe²⁵ in his informal but thought-provoking book *The Right Stuff*, pilots tend, quite reasonably, to be specifically and highly focused on their missions and on the operation of their aircraft in the service of those missions. This leaves little time for scientific speculation or wonder, and this mission focus is essential for successful aerial operations. This was clearly observed, for example, in the return from space of the Apollo 11 lunar mission, in which a variety of odd visual phenomena were noted, but essentially ignored, by the astronauts. Astronaut Buzz Aldrin has pointed out in interviews that the astronauts' focus was on successfully returning to Earth; Apollo 11 had completed its mission, and the complex operation of the spacecraft simply left no time for scientific or philosophical considerations regarding odd bits of light in the surrounding space.

Despite many modern assertions to the contrary, for which hard evidence appears, at this time, to be lacking, Hynek's original data, later observations, and the psychological considerations discussed here would seem to preclude overreliance on the accounts of aviation personnel in the consideration of UFO phenomena. Aviation expertise is obviously admirable, and indeed essential if aircraft are to get from one place to another successfully; but just as the builder of a wall is different from the builder of a ship, we would not necessarily expect aviation training and experience to generalize to the scientific or philosophical consideration of UFO phenomena.

Individual Differences: Scientific Training; Percival Lowell and the Canals of Mars

Percival Lowell, the founder of the great Lowell Observatory in Flagstaff, Arizona, was an excellent astronomer; the list of his achievements precludes any other reasonable conclusion.

Yet he was a firm believer in Space Aliens.²⁶

At the turn of the last century, Lowell turned his then state-of-the-art telescopes to the planet Mars, where he beheld Canals. Actual, artificial Canals, built by what he presumed to be actual Martians, heroically shunting water around on their desert world in an attempt to survive what Lowell perceived to be increasingly desiccated conditions.

The problem is that we are now quite certain that there are no canals, or any other engineered structures, on the planet Mars. As far as we can tell, there never have been.

So, what was Lowell, an experienced, accomplished, and expert astronomer, actually seeing?

Thanks to the courtesy of the staff of the Lowell Observatory, the present writer was able to examine Lowell's original notes, drawings, and globes of Mars from the time of his Canal observations; and the only possible conclusion of this research was that the source of Lowell's observation of these artifacts of Space Alien engineering was entirely psychological.²⁶

There are many natural, geological features on the planet's surface. We know that human minds tend to "connect the dots" among such features, consistent with perceptual laws identified early in the 20th century by the Gestalt psychologists.²⁷ Once the Gestalt principles set in to connect various actual Martian planetary features, by straight interpolated lines which don't actually exist outside of perceptual processes, it is perfectly possible for cognitive dissonance⁷ to set in; and a physical, rather than psychological, explanation for the Canals became so important to Lowell that he effectively fired one of his most valued colleagues for suggesting the psychological reality. Lowell had, in his own mind, created a powerful cognitive framework⁹ for his belief in the Canals.

This would suggest that cognitive frameworks can actually reconfigure our perceptions, to the point at which we perceive things that simply don't exist. But is this true?

My research students and I provided research respondents with a slightly out-of-focus picture of Earth's moon at "supermoon" approach. It appeared as a large, featureless, spherical white blob, and none of our respondents identified it positively as the moon (although one guessed). When we told them that the picture was "an object," practically nobody saw any surface features. Reasonable; there weren't any. However, when we informed respondents that the image was a "lunar or planetary body...photographed in this solar system," with or without reference to expert belief that there might be alien structures up there, prior cognitive frameworks,⁹ presumably fostered by a continuous media bath of UFO ideation, took over. On the blob, now identified as a lunar or planetary body, respondents saw all sorts of things, ranging from colors and abstract patterns to a few alien buildings and even, in one case, a canal.²⁴

Extraterrestrial buildings and an alien canal. On a featureless white blob.

Not surprisingly, those who "saw" the most evidence of space alien handiwork, on the featureless white blob in question, were those with higher levels of subclinical dissociation.²⁸

Using nothing but psychological dynamics, the popular prior framework that "lunar or planetary bodies" might be riddled with alien constructions, we were able to produce perceptions and interpretations of structures, on a featureless blob, that had no existence outside the minds of the perceivers. This was especially true of the relatively dissociated perceivers.

The ultimate lesson is this: if we believe strongly enough in the Space Aliens, under the right conditions, it's a good bet that we will also *perceive* them, in the absence of any corroborative evidence whatsoever.

Here we see strong evidence that one of Lowell's few errors, in a distinguished scientific career, is readily explained through the processes of psychology, literally of forensic cognitive science, applied to this case; and although it is likely that Lowell himself would have bitterly resisted this conclusion, it would appear that the same psychological dynamics that apply to popular perception and interpretation in the paranormal realm may also find purchase in the realm of the scientific. *There is continuity in the nervous system*—and there is a psychological dimension to perception and interpretation in the world of professional science as well.²⁸

Suggestive Psychological Frameworks and UFOs

We can even produce, psychologically, the perception of UFOs themselves.

In a series of photographs taken in the desert southwest of the United States, two roughly spherical blobs appeared in the sky in each photograph, in the same relative positions. These photographs were shown to respondents, accompanied by descriptions of the relevant desert features.

Other respondents, however, were shown the photographs with accompanying information: that this was a desert area “in which a great many UFOs and alien encounters have been reported.” This assertion was true; the American deserts tend to attract a great many believers in UFOs and related phenomena, and paranormal reports surge there accordingly.

In this experiment,²⁹ those who received prosaic desert descriptions tended to attach no real importance to the two blobs. However, those in the UFO condition tended to endorse, at a statistically significant level, some rather far-fetched ideas: that at least one of the blobs was an intelligently controlled vehicle; that they might be directly piloted or controlled from some other “ship or station”; and that at least one of the objects was “an extraterrestrial spacecraft or similar vehicle.”²⁹

All this from the simple, true statement that other people had reported UFO sightings in the area, resulting in a prior framework for understanding of the type that, as we have seen, may predispose us to UFO observations and interpretations. Respondents in the UFO/alien encounter information condition of this experiment created a significant amount of UFO ideation and imagery, all from the observation of two roughly spherical blobs.

The spherical blobs in each photograph were actually images of two dust-specks which had inadvertently adhered to the mirror of the present writer's camera during a desert dust storm.²⁵

Conclusions

One need not postulate a physical universe of space aliens and UFOs to explain observations of, and beliefs in, such phenomena. Psychological dynamics are perfectly adequate to explain these phenomena. Most of these are observed in related realms of forensic cognitive science, in the world of criminal justice. These include linguistic factors; the importance of the availability

heuristic; the reconfiguration of memory; individual differences, especially those involved in dissociative processes; prior frameworks for perception and interpretation, rooted in a variety of sources; cognitive dissonance; and somewhat exotic interactions of these factors with, for example, the Gestalt laws.²³ There are certainly other factors involved, many that go far beyond the scope of this paper, into the realms, for example, of social and developmental psychology.⁴ For the present, however, it would seem that the Earth is in no danger from the space aliens or their UFOs, save the dangers that these ideas may promulgate in our own minds. It might also be asserted that the principles of forensic cognitive science may be very helpful in explaining aspects of the UFO phenomenon, and that, reciprocally, scientific study of the psychology of the UFO phenomenon may be very useful and important in furthering our understanding of forensic cognitive science, as well as of other critical aspects of criminal justice psychology.

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III

ON WITNESS TESTIMONY

UFOs: The Role of Perceptual Illusions in the Endurance of an Empirical Myth

Manuel Borraz Aymerich

Abstract: This paper does not deal with alleged inexplicable UFOs—even though reasons to seriously doubt their very existence are also briefly addressed—but with explainable UFO reports existing beyond a shadow of a doubt with massive presence. The uninterrupted flow of those reports constitutes a worldwide social phenomenon keeping alive the UFO myth, an empirical myth of our age. Focusing specifically on the role of perceptual illusions, this paper examines the different types of illusions involved, their incidence in the reported UFO experiences, and their relevance to the myth’s survival. Popular misconceptions about perceptual illusions, raising prejudices against explanations implying misperception, are also reviewed to show their contribution to the myth’s endurance.

Keywords: Social phenomenon, Empirical myth, Cognitive visual illusion, Ambiguous stimulus, Misconceptions about misperception

Introduction

Throughout history, people have observed “strange things” in the sky. However, since the mid-20th century, the sky has become increasingly cluttered by potential things to be seen, owing to the development of aeronautics and astronautics. The last 75 years have also witnessed the rise and consolidation of a new trend in western popular culture. Unusual aerial displays are assumed to relate to each other as part of a unique phenomenon and are suspected to involve extraterrestrial visitors. Moreover, besides sightings of unknown objects in the sky, alleged landings of spaceships and even encounters with their crews have been reported. These are the notions permeating the simple question “Do UFOs (unidentified flying objects) exist?” or the more revealing “Do you believe in UFOs?” often eliciting responses like “There is something to it” or “Man is not alone in the universe.”

Is the widespread belief in a so-called “UFO phenomenon” backed by solid evidence? Over the years, there have been various extensive studies of UFO reports with a rational and pragmatic approach by official agencies (e.g., USAF Project Blue Book, in 1952–1969; or French civilian GEIPAN, nowadays) as well as private initiatives (e.g., Allan Hendry’s investigations under the auspices of CUFOS in the 1970s). Those studies have shared at least one main conclusion: most UFO reports can be satisfactorily explained by ordinary causes, when enough information is available.* It implies that, indeed, a real large-scale phenomenon exists, albeit of a social nature, having the character of a modern myth. This text will focus on this main corpus of evidence (explained cases) to illustrate the relevance of perceptual illusions in the empirical foundations of the social phenomenon. Nevertheless, it is worth looking at the alleged anomalistic nature of the minority of UFO reports remaining unexplained after an in-depth analysis before leaving them aside.

* Nowadays, there seems to be a general agreement among ufologists—except the more gullible ones—that 90% or more of all UFO sightings result in an explanation.

Some Words on the “Residue”

While extreme believers utterly negate the well-known social dimension of the UFO issue, the usual conventional approach still disregards the explained reports to concentrate on the unexplained ones. They try to find the accurate signal amidst the noise, the true UFO phenomenon at the core. Yet, the significance of the “residue” of unexplained cases is far from being established.

Firstly, the mere existence of a small percentage of unexplained cases does not prove the existence of an inexplicable phenomenon. Some explainable UFO files will remain unsolved for several mundane reasons. However, no way exists to know in advance which cases will remain unexplained after a proper evaluation task. No analytical shortcuts can anticipate which cases will add to the “residue,” let alone distinguish hypothetical “true UFOs.” Unexplained cases lack specific characteristics differentiating them from the explained ones. The “residue” is a hodgepodge of heterogeneous reports, just like the primary collection of solved files.

According to the above remarks, if there were an unknown phenomenon, it would concern only a fraction of the already marginal “residue” and should probably be better described as several unknown phenomena rather than a single one. On top of that, a close look at the social side reveals that any “true UFO phenomenon” at the heart of the “residue” would be irrelevant to the popular views on the subject. Because most cases that people consider when thinking about the so-called UFO problem are actually explained, doubtful, or even fictional, the social phenomenon can endure and develop without any true anomaly. In this regard, the aforementioned ufological usual approach leads to a “homeopathic” paradox. Trying to find the answer in the “residue” while overlooking the social dimension resembles focusing on the supposed healing properties of ultra-diluted substances and dismissing the placebo effect.

Ultimately, strong reasons exist to dispute the existence of any anomaly and wonder if there is no signal but only noise. A blatant lack of compelling photographic evidence is present for a phenomenon primarily involving things *seen* in the sky. Besides some impressive but fake photos of spaceships, we have had an endless parade of either readily identifiable images or useless, poor-quality, blurry shots. Furthermore, photography has contributed to the noise in its category of UFOs unseen by the photographer and discovered a posteriori in the pictures (usually, lens flares and other photographic artifacts, as well as images of unnoticed bugs or birds). While the photographic argument has always been relevant, it has substantially strengthened nowadays with everybody carrying cameras on their phones—they can take pictures and videos—and with surveillance cameras everywhere. We are still waiting for indisputable photographic evidence.

Other types of evidence, including radar detection and physical traces, support UFO reports. Therefore, among the “residual” cases during the last 75 years, we could expect to find at least a few examples of “ideal cases,” supported at once by multiple independent witnesses and good-quality photos as well as consistent radar evidence and unmistakable imprints on the ground. Nevertheless, none exists. Otherwise, we would not still be pondering on ill-defined UFOs but referring to a newly discovered phenomenon that could then be studied on scientific grounds.

UFO Reports as a Social Phenomenon

From the outset, many aspects of the UFO issue fall within the scope of human sciences. Topics like the symbolic dimension of UFOs, their presence in popular culture, the links between science fiction and UFO lore, the dynamics of UFO cults, the psychological profile of abductees, the governmental policies on the subject, or even the epistemological status of ufology are some relevant examples. Scholars addressing such topics often avoid taking a stance on what UFOs really are, sometimes purposely committed to an exclusively anthropological approach. However, multidisciplinary research—akin to detective work—allows finding indisputable or, at least, probable explanations for most UFO files, proving that they constitute a great-magnitude full-fledged social phenomenon. Consequently, besides the sociocultural imprint of UFO reports and the usual topics regarding how they are handled and interpreted, those (solved) UFO reports and how they originate prove to be legitimate objects of study in human sciences.

The UFO narrative in the media, popular magazines on strange phenomena, or books written by ufologists of all tendencies covers a broad range of stories. Therefore, from the perspective of human sciences, the study of UFO reports cannot be limited to reports of sightings of unidentified flying objects. In this context, I propose a pragmatic and inclusive definition of “UFO report” as follows:

The report of an apparently anomalous observation, experience, or occurrence that, for whatever reasons, has been directly or indirectly related by someone (observer or experiencer, reporter, investigator, etc.) to the sighting of Kenneth Arnold of June 24, 1947, and/or to previous or subsequent reports or stories that have been directly or indirectly related to that sighting.

One can observe that the relationships may be *indirect*, not relating to factual details but the interpretation of an event, usually under the widespread extraterrestrial assumption. Thus, for example, “bedroom invader” experiences (usually ascribable to hypnagogic or hypnopompic hallucinations) may become related to Arnold’s sighting itself and enter the universe of “UFO reports,” despite involving no “flying object” and not even an “object.” The same applies to the finding of peculiar traces in the fields (a “fairy ring” caused by a fungus, for instance), because the definition considers events or occurrences in general. Note also that old tales, before Arnold’s sighting (for example, pious medieval legends mentioning mystery lights leading to the finding of a sacred tomb or a hidden statue of the Virgin Mary), can become “UFO reports” when mentioned or reproduced nowadays in a ufological context.

An Empirical Myth

Some UFO reports concern rumors, hoaxes, supposed memories retrieved by hypnosis, stories developed around false memories, and all kinds of unsubstantiated claims. Nevertheless, most cases have a real experiential basis. They range from entirely subjective experiences (e.g., infrequent hallucinations—mainly hypnagogia-related—and rare oneiric episodes) to far more frequent and typical observations of physical phenomena. The reports reflect the observational substance with uneven accuracy and varying degrees of distortion, sometimes integrating spurious nonfactual contents. Still, the fact remains that the UFO social phenomenon has a strong empirical background. The modern UFO myth does not rely solely on a “tradition” of bequeathed beliefs, a foundational episode, and occasional claims by specific individuals pretending to be in contact with aliens. We are facing a genuine empirical myth kept alive by an uninterrupted worldwide flow of experiences—mostly sightings—since Arnold’s encounter in

1947. In a sense, UFOs are on everyone's mind because UFOs are being sighted and reported, and they are being sighted and reported because they are on everyone's mind.

What is being sighted and fueling the feedback cycle is quite diverse. We expect to find only unusual phenomena with which casual observers are unfamiliar, including some exceptional ones that could perplex even trained observers. A few elaborate pranks played on some witnesses are also to be expected (although not all the pranks get disclosed or uncovered, some might remain categorized as high-strangeness unsolved cases). However, in practice, virtually anything may end up labeled as a UFO, even the most elementary and everyday objects and phenomena. People are sometimes deceived by a spacecraft's deorbit burn, a sophisticated drone, a stratospheric balloon, a parhelion, or a spectacular fireball, and also by a passing satellite, an ordinary plane, a toy balloon, simple clouds, or even the Moon. How is this possible?

First, we should not overestimate the ability of the average observer to identify commonplace phenomena. It is usual for witnesses to accurately report a sighting of Venus, just failing to identify it. Secondly, expectations may play a major role, guiding the observer's attention and influencing the interpretation of what is seen, preventing the observer from making a correct identification. It applies not only to UFO enthusiasts anytime but also to anyone in certain situations when spotting a UFO becomes a "reasonable" possibility (e.g., when the topic hits the headlines). It can even be a likely and imminent one (e.g., when a pilot is asked to take a look around after an alleged UFO has been reported by another aircraft in the area). Physical conditions affecting the appearance of trivial objects, making them more challenging to identify, are another factor to be considered. An observer can misinterpret the image of the Moon close to the horizon when half-concealed by clouds or affected by a mirage. Observational constraints imposed by the dynamics of the sighting may also hinder its identification. For example, failing to witness the end of certain events can impede a proper understanding of what was observed. When an aircraft with landing lights approaches an observer on the ground from a far distance, it may be misinterpreted as a close, silent, almost stationary, luminous object. If observed for long enough, the oncoming course, the sound of the engines, and the different lights become more and more noticeable, facilitating the identification. However, an observer missing that final phase might not recognize the aircraft. Last but not least, perceptual illusions are a vital aspect of the issue, as depicted by this last example involving a distant aircraft misperceived as a nearby still object.

UFO Experiences and Perceptual Illusions

In many UFO reports, the appearance and behavior of the actual observed phenomenon appear considerably distorted, rendering it unrecognizable. Although mistakes, exaggerations, and misrepresentations often arise and accrue during the recall phase and the subsequent processes of collecting and transmitting the information, some anomalous features in the reports can be traced to the witness' actual perceptual experience. In those cases where the observer fails to identify an ordinary object and experiences perceptual illusions, we have, at best, a reliable account of the observer's experience but an unreliable report of the original stimulus. Such reports cannot be completely trusted when trying to identify the observed object. Fortunately, they may include valuable data to accomplish the identification and, ultimately, clarify what perceptual illusions were at play. Typical examples are episodes involving regular celestial bodies (e.g., a motorist "followed" by a bright star) because their position can be accurately calculated for any given

place, date, and time. Good chances also exist to clarify puzzling reports involving a completely random and unanticipated stimulus (e.g., a sporadic meteor described by some observers as an airship with windows) when observed over a wide area by many independent witnesses. Comparative analysis of all the reports can then be used to reach a more objective view of the event and isolate the conflicting details appearing in some.

Perceptual illusions in UFO experiences are mainly cognitive visual illusions affecting perception of objects' motion and shape. A non-exhaustive list follows.

Visual Illusions of Motion

Except for the autokinetic effect, considered a physiological visual illusion, all the illusions mentioned below have a cognitive character. Most relate to mistaken assumptions and inferences about distance.

The *Autokinetic effect* causes a stationary point source of light in a dark sky, with no frame of reference, to appear to move. Observers may perceive a star moving around erratically* or a satellite zigzagging instead of following a straight path.

Repeated flashing of a light, like that of a twinkling star, can be taken as a cue of *spinning motion*.

Illusions of motion along the line of sight originate from changes in an object's size or a light source's brightness, which the brain interprets as changes in the distance to the stimulus. A bright planet becoming gradually visible as the sky clears up seems to move closer, whereas the setting Moon, seen "shrinking" as it hides behind clouds on the horizon, appears to move away.

The opposite situation occurs when an *object in motion is perceived as stationary*. The observer may miss the cues denoting the motion when they are weak, as happens for a distant object following a path identical or close to the line of sight—like in the aforementioned example of the approaching aircraft with landing lights on. The illusion becomes particularly perplexing when the observer wrongly assumes that the object is near.

Illusions of motion caused by the observer's motion depend on whether the distance to the object is under- or overestimated. A motionless distant object visible to the side of the direction of travel is overtaken by the traveling observer exceedingly slowly. In contrast, closer objects are quickly left behind unless they move along with the observer. Therefore, if the observer assumes that a distant object is much nearer than it is, its "fixed" relative position to the side leads to inferring that it mimics the observer's motion—halts and accelerations included. Typical examples involve motorists and pilots mistaking Venus for a nearby flying object and reporting having been accompanied, followed, or even chased by it. Figures 1 and 2(a) illustrate this illusion when the distance is underestimated.

* Not to be confused with small apparent displacements of stars due to variations in atmospheric refraction.

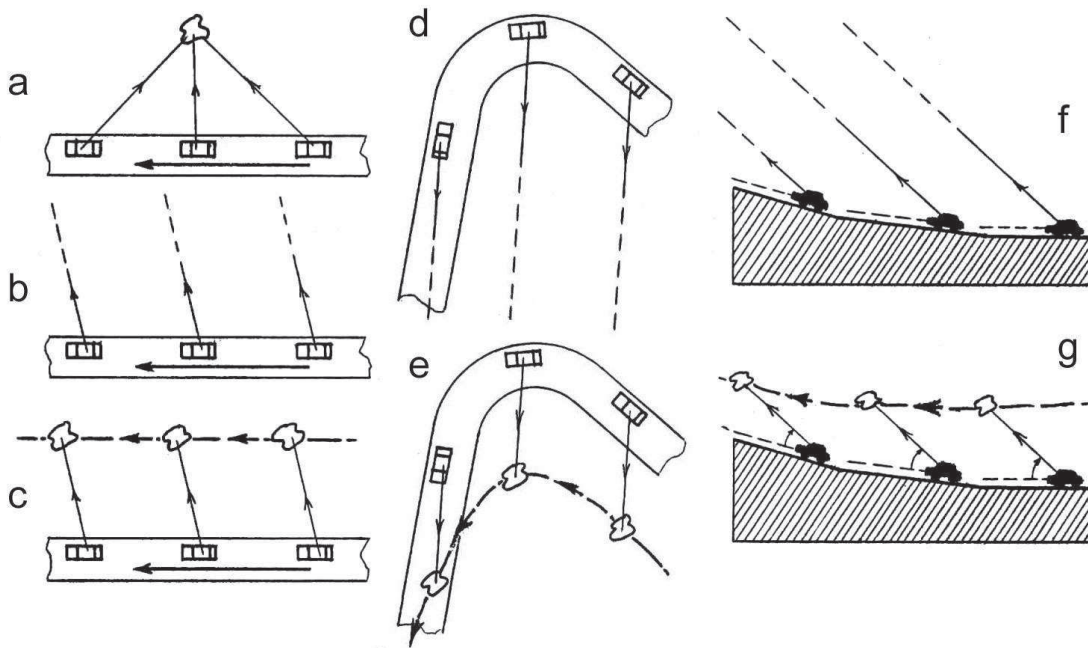


Figure 1

A distant still object observed from a moving car (b, d, and f) can be misinterpreted as a close moving object (c, e, and g). For comparison's sake, the figure also depicts a close still object observed from a moving car (a).

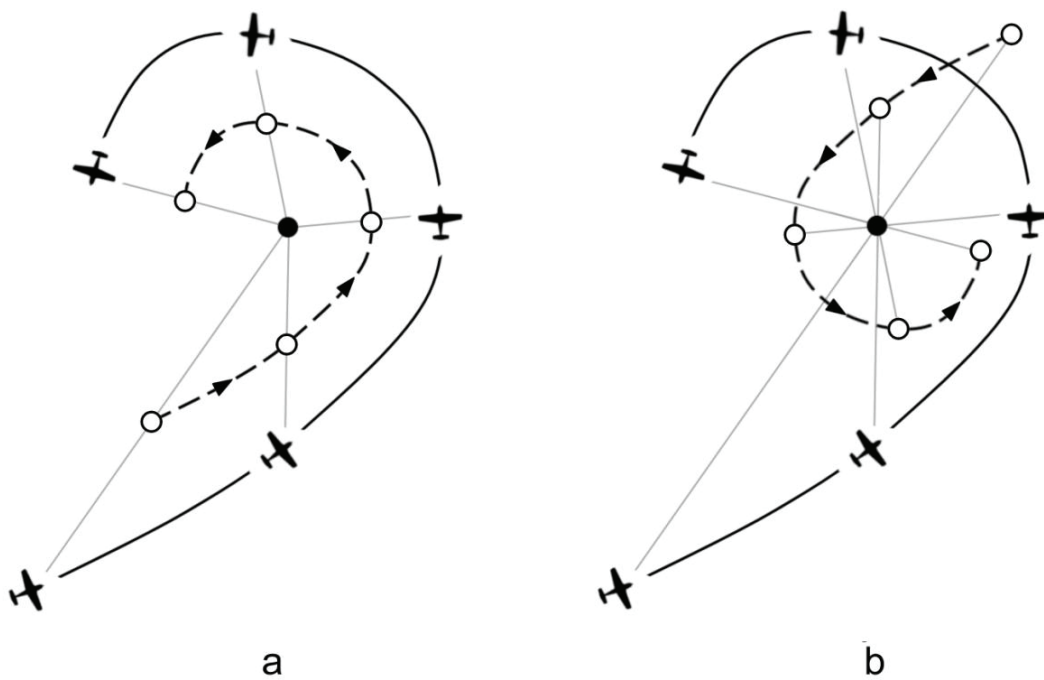


Figure 2

A still floating object observed from an encircling aircraft can be misinterpreted as a moving object when the distance is either underestimated (a) or overestimated (b).

When the above illusion is due to an overestimation of the distance to the object instead of an underestimation, the perceived object's motion becomes an inverted version of the observer's motion, where the object travels in the opposite direction (see Figure 2(b)). A pilot flying around a nearby balloon thought to be at a greater distance may experience this illusion and attribute evasive maneuvers to the object, akin to those encountered in a dogfight episode.

Illusions of motion induced by environmental cues are also worth mentioning. A vivid example is that of a witness observing a distant stimulus in the sky from two successive places with different foregrounds: first, the trees of a forest and then a vast plain bounded by faraway mountains. The observer's brain can infer that the object has moved away—due to the assumption that it was first over the nearby trees and later over the background mountains. Another less sophisticated example is that of stars overhead perceived as lights in motion when seen through moving clouds that the brain takes for a motionless frame of reference. The effect is even more dramatic if the observer perceives the “moving” stars as being below the clouds.

Some illusions above can coincide, adding complexity to a sighting. It is the case of the illusory collision course discerned by a traveling observer when a distant brightening light is assumed near. This situation combines an illusion of following due to the observer's motion and another of approaching along the line of sight induced by the brightening.

Illusory Shapes

Some specific examples follow.

“*Airship effect.*”^{*} A fraction of witnesses to spectacular fireballs and re-entries of space debris describes a cigar shape surrounding the string of disintegrating fragments, sometimes interpreted as windows in a dark aircraft (see Figure 3).

“*Rotating saucer*” *illusion.* A row of stationary lights sequentially flashing creates a single moving light illusion. If the flashing is repeated on a loop, the observer can think that one or more lights are placed on the circular outer edge of a rotating object—provided that the existing framework is invisible due to a dark environment. It is precisely the case of night advertising planes (quite rare nowadays) when spotted from an angle not directly below the aircraft as intended. That sideways view makes any scrolling text displayed on the electronic billboard appear as a row of “moving lights” misinterpretable as belonging to a rotating disc. Occasionally, witnesses even describe the outline of the illusory saucer and some of its features (see Figure 4).

Shape changes, as well as *splitting* and *fusion* processes, are typically reported by observers mistaking the Moon for a nearby mysterious object when the satellite is at low elevation and clouds partially block the view.[†]

^{*} Term coined by William K. Hartmann and applied to UFO reports generated by the re-entry of Zond IV debris on March 3, 1968.¹

[†] Changes are determined not only by the motion and evolution of the intervening clouds (not necessarily local clouds) but also by the own motion of the Moon. Besides, some distortion effects at rising or setting do not relate to clouds but to atmospheric refraction.

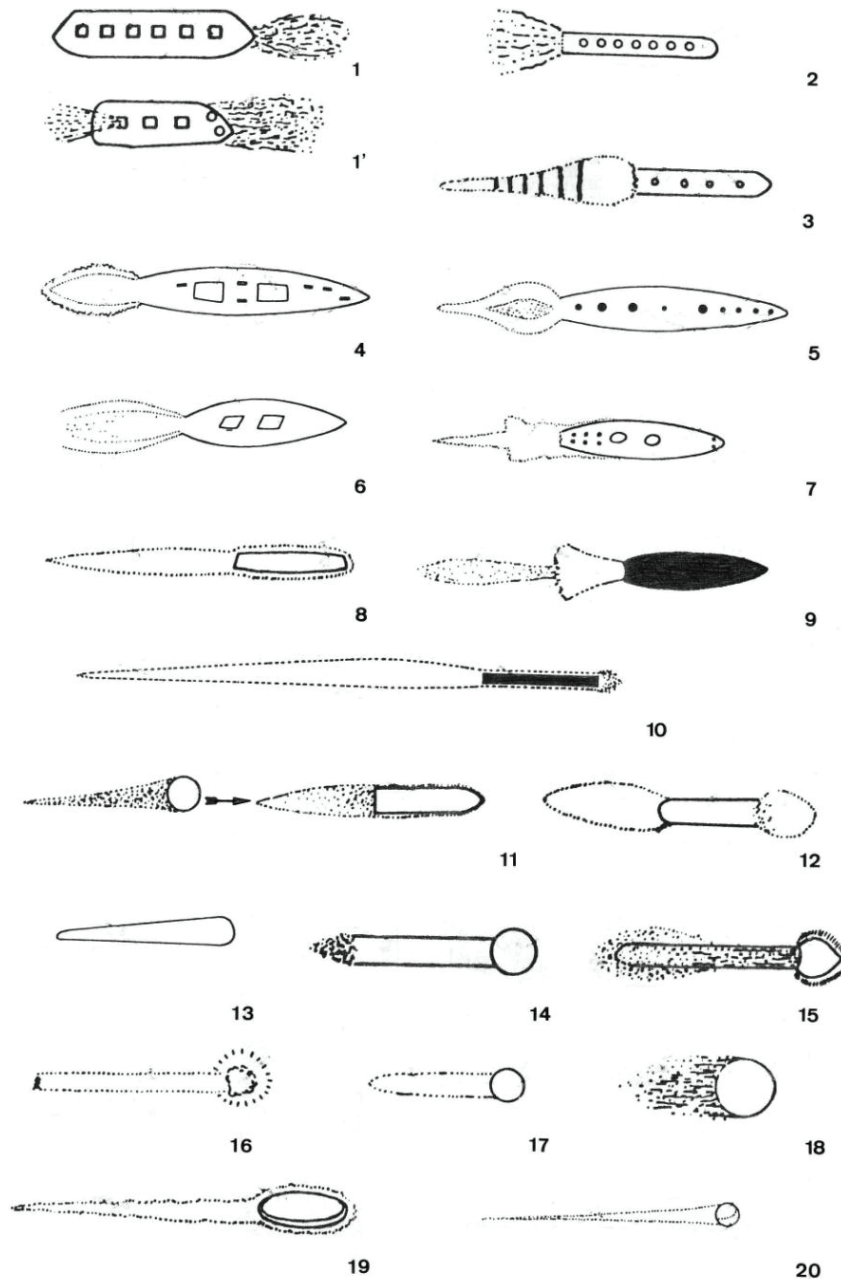


Figure 3

Sketches of the phenomenon observed from Western Europe on 1978 New Year's Eve, depicted according to different witnesses from all over Britain.^{2,3} It was caused by the re-entry of the third stage of the rocket carrying Cosmos 1068 into orbit.

Other Illusions

The Moon close to the horizon causes an optical illusion affecting not shape but apparent size. The so-called "*Moon illusion*" makes the satellite appear bigger near the horizon. This illusion and the usual reddish-orange hue of the Moon at low elevation (an atmospheric scattering effect) suffice to make it an object too big, too strange, and too low to be the real Moon in some observers' eyes.

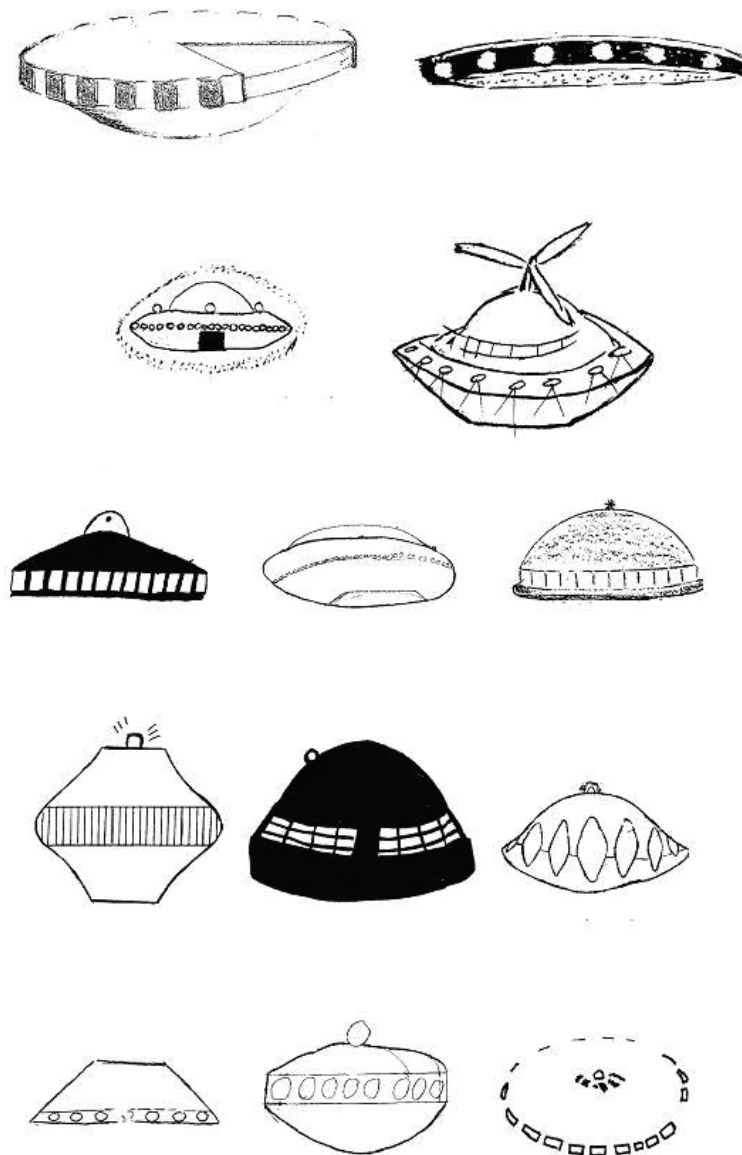


Figure 4

Sketches of misinterpreted advertising planes with flashing night signs observed in Spain in 1982 (upper row)^{4,5,6} and the USA in the 1970s (four lower rows).⁷

Other illusions experienced by UFO witnesses are not visual illusions, strictly speaking. For example, sometimes observers make sense of completely random fluctuations in the light of a celestial body, as if it responded to their signals or even reacted to their thoughts.

Misconceptions about Misperception

Very few would deny that some UFO reports concern misinterpretations of conventional objects misperceived by the observers. Nevertheless, few know the extent of such occurrences and how commonplace and severe misperceptions can be. In the paragraph below, I summarize what I

think are the most common misconceptions and prejudices about the possibility of UFO witnesses being misled by misperceived objects:

Some mistakes involving misperceptions do occur, but they probably result in a subset of jumbled cases of little or no complexity. They would mainly affect lone observers, neither particularly smart nor experienced, with a prior interest in UFOs and quite knowledgeable about the subject. Additionally, it would be no surprise that many of them had vision problems. Most cases would concern either infrequent phenomena or fleetingly seen ordinary ones. A longer duration of sightings increases the chances of observers becoming aware of any mistake. All things considered, we are talking about a subset of cases of little significance.

Those views do not paint an accurate and fair picture of the matter, as we will show below by considering the evidence derived from explained UFO reports. Notably, the evidence accords with what is already known about perceptual illusions, so we cannot expect the study of UFO reports to revolutionize perceptual psychology.

“Just Some Cases”

Generally speaking, mistakes involving misperceptions are relatively infrequent in everyday life, but it does not follow that they must be present only in a limited number of UFO reports. UFO experiences often involve misperceptions.

Figure 3 depicts the appearance of an aerial phenomenon observed over Britain in 1978—the re-entry of the third stage of a Soyuz-U rocket—according to different witnesses. The weirdest eyewitness accounts—like those illustrated in the upper part of the figure displaying misperception effects—have a greater chance of being reported as UFO sightings by observers and be shared in ufological circles. In this 1978 case, we have all kinds of testimonies and an after-the-fact explanation providing the right context. However, when similar occurrences result in just one or a few isolated UFO reports, we can expect the weirdest eyewitness accounts to prevail. To a certain extent, collections of UFO reports are biased assortments of improbable episodes involving misperceptions.

“A Subset of Jumbled Cases”

Surprisingly, the outcome of mistakes is not necessarily a chaotic scenario. Certain mistakes are recurrent, thus bringing in some distinct characteristic patterns.

We have already commented on the “airship effect.” Over the years, observers worldwide have consistently reported a particular type of non-existent windowed aircraft. Because the fundamental psychological and cultural factors involved do not change (namely, the perceptual processes at play and the basic idea of a vehicle with windows or portholes), exposure to the same stimulus (typically, a space junk re-entry) can repeatedly cause precisely the same type of misinterpretation. A similar example is the above-mentioned “rotating saucer” illusion, triggered by the view of night advertising planes and—unlike the “airship effect”—heavily influenced by the flying saucer stereotype. Recurrent patterns also occur concerning behavior, like when celestial bodies are reported as UFOs pursuing observers or moving away at blazing speed along the line of sight.

Ironically, UFO believers consider those patterns intrinsic properties of UFOs and solid proof

suggesting their authenticity because independent observers report the same things.

“Little or No Complexity”

Perceptual illusions such as those listed in the preceding sections can combine to generate complex, dynamic, and high-strangeness experiences.

Moreover, some wrong inferences arising when the involved stimulus becomes unavailable may also add to the complexity of the episodes. Some instances include motorists being “chased” by a bright planet, then losing sight of it while driving through a village, and seeing it again when leaving the built-up area. The observers become convinced that the UFO went around the village and waited for them to resume the chase. Sometimes, the initial stimulus completely disappears, and the observer’s attention is transferred to another stimulus, assuming both are the same UFO. After losing sight of the bright planet, our motorist would probably think the UFO had landed when suddenly encountering some eerie-looking lights from a house in the fields when coming out of a curve.

Both pure coincidences and indirect causal effects can also increase the complexity and strangeness of UFO experiences. For example, a driver observing a UFO may blame it for a coincidental interference on the car radio caused by power lines next to the road. In a similar encounter, the driver can inadvertently stall the car out of nervousness and presume that the UFO caused the engine to stop. In this last example, the stalling is down to human error—not due to alleged UFO “electromagnetic effects”—yet indirectly attributable to the UFO sighting.

Nevertheless, all of the above is only half of the story. Before crystallizing in the version conveyed by the UFO report, the information about the original experience goes through storage and retrieval stages of memory as well as one or more transmission phases, often involving the interaction of the observer with other persons (relatives, friends, investigators, journalists, police officers...). Without going into detail, all these processes may introduce omissions, distortions, or additions shaping the publicized version of the experience and making it appear even stranger and more complicated.

“Lone Observers”

Contrary to what some might think, many UFO sightings with multiple witnesses involve mistakes and misperceptions.

These sighting reports often reflect the views of only some witnesses in a group (sometimes, only one!), making it difficult to tell how many embraced the UFO interpretation during the event. In any case, multiple-witness UFO reports show that an observer in a group may conform to the interpretation held by some or all of the other group members, be it right or wrong. Individuals may think that the majority opinion can be trusted or just feel compelled to agree, influenced by their concept of the other persons in the group—determined by factors like authority, expertise level, or socio-emotional ties. Besides, others’ attitudes and reactions during the sighting can exert a decisive influence.

While this scenario could seem as implausible as the notion that someone can be persuaded to view a cat when seeing a moose, real examples are more akin to deciding between a rabbit and a

hare because they mainly concern ambiguous stimuli. When crew members of an airplane misidentify Venus on the horizon for an unknown aircraft not far away, they assume a wrong distance to the light. Once that initial decision is made, what ensues—perceptual illusions, deductions, reactions—is not intrinsically farfetched but makes sense in that wrong context, shared by the crew members. Compared to the alternative experience they would have had if they had assumed a great (astronomical) distance from the start, it is a more mysterious experience, but not less coherent.

We have stressed above the role of the group—the social factor—in multiple-witness UFO cases. However, we should not forget that any consensus of interpretation is made possible by witnesses observing the same stimulus and, eventually, undergoing the same types of perceptual illusions. Therefore, it is reasonable that UFO sightings involving misperceptions must exist with multiple independent witnesses, in different locations. We refer again to the examples concerning the “airship effect” and the “rotating saucer” illusion.

“Not Very Reliable Observers”

The often-repeated claim that UFO reports by qualified observers (civilian and military pilots are the most-cited examples) are entirely reliable, whereas misidentifications are made only by observers who are neither particularly smart nor experienced, has been repeatedly proven false. Perceptual illusions are ordinary and non-pathological processes affecting all humans, including “top witnesses.”

Pilots differ from many other categories of eventual observers in professional training and experience. However, interestingly enough, they are particularly exposed to situations occasionally leading to misinterpreting ordinary stimuli. We are not necessarily referring to extreme situations setting strong expectations (e.g., the scrambling of a fighter jet to intercept an unknown target detected by ground radar, later known to be a ghost target) but to more mundane situations raising concerns about flight safety and, sometimes, causing pilots to overreact. Going back to the example of a flight crew misidentifying Venus on the horizon for an unknown aircraft at their level, without a conclusive identification, safety concerns can prevent a pilot from dismissing the UFO interpretation and thinking of a heavenly body. Moreover, under these circumstances, the pilot may even take evasive action if Venus becomes much brighter, interpreting it as a cue of a collision course.*

These are rare occurrences. More frequently, pilots can immediately identify the planet or realize the mistake while the sighting is in progress. Note that the selective nature of collections of UFO reports makes this latter type of event invisible. Therefore, we have an incomplete, biased view of the problem.

It is also worth mentioning that pilots’ UFOs, like everyone else’s, can get bigger, nearer, stranger, and less ephemeral with time when recounting the stories. Fortunately, sometimes it is possible to test the reliability of the details when audios or transcripts of air-ground communications are available.

* Evasive aircraft maneuvers have been more common in “close encounters” with fireballs and atmospheric re-entries of space debris.

“Acquaintance with UFOs”

Does it take big expectations and much information about UFOs for observers to misinterpret conventional objects and have UFO experiences? Not necessarily. On the contrary, many cases suggest that it suffices that observers of unexpected phenomena consider mere UFO notions and images as those present everywhere around us in news, films, rumors, jokes, and the like. Thinking of UFOs when seeing something strange is a powerful enough evocative action. It arouses the notion of “Them”—usually understood as alien intelligent beings—leading the witness to find purpose in all that the UFO appears to do next. “They come for us” is also a simple thought. Nonetheless, it can trigger a strong emotional response of fear and even panic.

No need exists to insist on how perceptual illusions and the nature of the misidentified stimulus—both factors out of the observer’s control, particularly the second one—can largely determine the features of the experience, once the observer considers the UFO possibility.

“Infrequent Phenomena”

Misidentification occurrences are not confined to sightings of unusual phenomena. Commonplace phenomena may sometimes deceive people, and, as previously explained, virtually anything may end up labeled as a UFO.

Incidentally, a fascinating trait of the UFO myth is that, while it began as a “flying saucer” craze in 1947, it quickly embraced sightings of flying objects of all sorts, including mere lights. As early as 1948, USAF study Project Sign categorized sightings into four sections: flying disks, cigar/torpedo-shaped crafts, balloon/spherical crafts, and balls of light. Nowadays, UFO sightings do not constantly require a flying object (they can refer to a “landed” one), nor even an object (it suffices, for example, to see a lone being that someone could relate to UFOs). All these circumstances have dramatically broadened the range of stimuli that can be misidentified as a UFO or anything UFO-related, boosting the empirical myth. It makes the UFO myth very different from other more limited, specific, and even geographically-confined empirical myths (e.g., Big Foot).

“Short sightings”

The notion that UFO sightings involving misperceptions cannot have a long duration—in particular when they concern ordinary visual stimuli—is based on the assumption that the longer the duration, the higher the chances of observers becoming aware of any mistake.

Nonetheless, perception of ambiguous stimuli in a ufological context can be approximately compared to observing a Rubin vase providing two different perceptions, both stable. Only one of the two mental images can be maintained at a given moment, and the observer’s brain will stick to that interpretative frame unless it is challenged. It explains why UFO sightings involving, for example, the Moon—unrecognized by the observers—can last long. Contrary to what it might seem, witnesses do not have to be transfixed all that time. In some cases, they try to experiment or interact with the UFO, or leave the observation spot to return later with new observers and resume the sighting. Notably, trying to put the UFO to the test may reinforce the wrong perception in some cases. Occasionally, a driver unable to outpace the UFO—in reality, the Moon—finally decides to stop the car and observe what happens. “Amazingly,” the UFO stops too, and the observer’s suspicion of being followed and watched is thus “confirmed.” The

situation is still consistent with a faraway Moon and a nearby moon-like object following the car, and remains ambiguous if the observer considers this second scenario a real option.

“Little Significance”

Cases of misinterpretation of conventional objects are crucial to the UFO myth’s survival. People may distrust rumors, be wary of stories sounding fake, and be aware of ordinary phenomena fooling observers occasionally, yet feel compelled to believe in the kind of UFO reports related to misperceptions. Those reports usually imply honest, credible witnesses, real personal experiences, and no apparent explanations—because they only become evident when a detailed analysis of the information is conducted. Therefore, it is easy to hastily conclude that these accounts of extraordinary experiences recounted by ordinary people prove that the depicted UFO encounters were factual. Such reports may lack the epic of contactees’ stories or the appeal of the inflated tales of UFO crashes; however, they convey authenticity and are considered compelling pieces of evidence by many, thus nourishing the empirical myth.

UFO Research as a Self-Fulfilling Prophecy

Investigation of UFO reports by UFO believers is usually constrained by misconceptions about misperception—as illustrated above—along with other factors such as probability illiteracy and a strong predisposition to take witnesses’ words at face value. The most gullible ufologists do not even search for reasonable explanations for UFO reports and accuse those doing it of being debunkers trying to discredit “the UFO phenomenon.”

As stated, collections of UFO reports gather many improbable episodes (extraordinary experiences involving ordinary misperceptions, unrelated events coinciding by accident, and mundane things seen under unusual circumstances, among others). However, UFO believers keep applying standard probability criteria instead of adopting a proper Bayesian approach when attempting to explain UFO reports. Consequently, they deem accurate explanations impossible because they find them “too improbable.”

The presumption of truth attached to witness testimony by many ufologists leads them not only to reject explanations concerning misperceptions but also to regard as unfair any suggestion of errors in critical data provided by the observer (like date, time, or sighting direction)—even when such errors appear to be the only and most apparent reason for the failure of the attempts to solve a particular case.

Misunderstanding and disregarding perceptual illusions result in the early exclusion of specific scenarios from the array of acceptable explanations for UFO reports. Most UFO believers presume that pilots cannot mistake Venus for a UFO, and motorists cannot misinterpret the Moon for a pursuing object.

Ultimately, ufologists’ prejudices and misconceptions transform unexplained UFO reports into inexplicable ones. The circle is complete, the research becomes a self-fulfilling prophecy, and “investigating” UFOs keeps the myth alive.

Conclusion

No definitive evidence of any anomalistic UFO phenomenon exists. Nevertheless, since UFO reports exist and most of them can be explained, a large-scale genuine “UFO phenomenon” occurs, albeit of social nature. It has the character of a modern myth linked to the belief in alien visits. Because the bulk of solved UFO reports has a real experiential basis, we can categorize it as an empirical myth, kept alive by an uninterrupted worldwide flow of experiences—mainly sightings—since Kenneth Arnold’s encounter in 1947.

What is sighted is comparatively diverse, from unusual yet non-mysterious phenomena and elaborate pranks to virtually anything, especially when it is misperceived and, hence, misinterpreted by the observer. Perceptual illusions in UFO experiences are mainly cognitive visual illusions affecting perception of objects’ motion and shape. Most instances of illusory motion relate to wrong assumptions and inferences about distance. Some illusions can combine to generate complex, dynamic, and high-strangeness experiences.

Episodes affected by misperceptions have honest witnesses reporting authentic personal experiences with no apparent explanations at first sight. Essentially, what we have in those cases is, at best, a reliable account of the observer’s experience yet an unreliable report of the original stimulus. Nevertheless, such intriguing UFO reports ooze authenticity and, hastily taken at face value, become compelling pieces of evidence to nourish the empirical myth.

At the same time, popular misconceptions about misperception, among other prejudices, lead UFO believers to disregard perceptual illusions as acceptable explanations for UFO reports, thus reinforcing a myth that is predominantly kept alive precisely by sightings involving misperceptions.

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Calibrating the Instrument: How Reliable Is Eyewitness Testimony?

Thomas E. Bullard

Abstract: UFO reports of low and high strangeness depend on witness reports, but this anecdotal evidence holds little scientific credibility. From perception to conception, recollection, and communication, every step in the career of a UFO experience is fraught with risks for distortions and alterations, exemplified in the 1968 Zond IV reentry and the 1997 Phoenix Lights. Abduction reports face even worse distortions. Yet most eyewitness accounts stick close to the truth or at least preserve basic facts even when the observer misconstrues their nature. A test sample of high-quality unknowns gathered from trained and experienced “elite” witnesses reveals a consistency that suggests a unitary anomalous phenomenon as the source.

Keywords: Eyewitnesses, Witnesses, Observational errors, Perceptual errors, Conceptual errors, Anecdotal evidence, Memory, Narrative creation, Zond IV reentry, Phoenix Lights, High strangeness and UFOs, UFO abductions, Quality of UFO observations, Quality of UFO observers, UFO characteristics, UFO best evidence

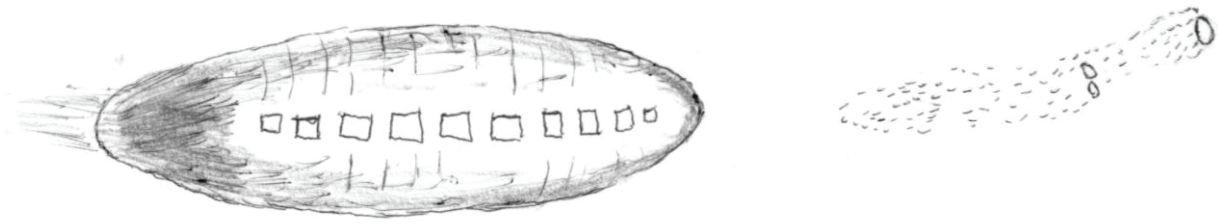
The Witness Problem

The first, foremost, and foundational instrument of UFO observation is the human witness. Cameras and radar may assist, other witnesses may corroborate, but the burden usually falls upon the individual experiencer to describe what happened, and to attest to the world that something unusual happened at all. Without these witness accounts no other trace would remain, no one would know that such a thing as UFOs existed. So, no pressure, right?

Sharp differences divide judgments on how worthy the witness really is. At first glance, reliance on human observers looks like cause for celebration. All of us are these instruments, know how to use them, trust them, take pride in them. In everyday thinking, if we saw it happen, it really happened. To hear straight from the mouth of a witness is to get as close to the actual events as humanly possible without having shared the experience ourselves. In a court of law, hearsay will not do and only eyewitness testimony counts as most likely to be truthful and trustworthy. When witnesses state that they have seen UFOs, even these experiences enjoy some benefit of the doubt because the speakers have standing as first-person sources.

On the other hand, a countercurrent of unfavorable evidence erodes that trust. All humans, ourselves included whether we admit it or not, are neither impartial nor infallible. The witness may strive for truthfulness, but along the way from observable event to communicated report, the final version of the story can, and often will, lose fidelity to the initial occurrence.

To cite a classic example of how much can go wrong, consider a celestial spectacle from the evening of March 3, 1968. The Soviet Union launched its Zond IV moon probe that day, but it fell back into the atmosphere over the midsection of the U.S. and broke into several pieces that incinerated a hundred miles above the earth. Seventy-eight witnesses reported sightings to the Air Force. There was no question about the time and place of the incident, no doubt about what these witnesses saw.¹ How they saw it is where the story gets interesting.



Zond IV—Fanciful and Factual Versions (redrawn from Project Blue Book).²

Most witnesses gave faithful descriptions of an elongated cluster of glittering sparks that swarmed silently across the sky in straight, uniform motion. Some of them even identified the lights as meteors or satellite reentries. Several witnesses used a misleading term like “formation,” implying that the lights moved under organized control, when they probably meant that independent lights traveled the same trajectory but knew no more precise terms to say so. In these observations as in many others, underestimations of altitude and overestimations of size were commonplace. But a few submissions distorted the events almost beyond recognition. In one account, a starlike light barely a thousand feet high grew rapidly larger as it approached. “It was shaped like a fat cigar...the size of one of our largest airplane fuselages” and “constructed of many pieces of flat sheets of metal-like material with a ‘riveted together’ look.” “It appeared to have square-shaped windows along the side...” The windows appeared lighted from inside, and the fuselage emitted a trail of fire. Another witness said a long object like a jet aircraft without wings rushed by at treetop level. It had many windows and appeared on fire in front and behind.³

A shared time, place, and position in the sky argue that the Zond reentry provided the sole visual stimulus, and that the minds of a few witnesses transformed burning fragments into windows on a solid body close enough to see its nonexistent metal plates. There is no escaping the hard truth that eyewitnesses are capable of extreme errors at odds with the real events and other observers. This “ideal” human instrument of observation can alter basic facts until the outcome is largely fanciful, and without independent knowledge of the true nature of an event, no one might ever distinguish the true from the false.

Eyewitness fallibility comes as no surprise to psychologists and social scientists. Much research demonstrates that witnesses to crimes and accidents are often unreliable, that victims’ recall is impaired by excitement and fear. Witnesses can lie and make honest mistakes; they are subject to prejudices, desires, expectations, and demands that reshape experience into personal truth that may differ considerably from historical truth. Because of this flexibility, skeptical scientists dismiss UFO reports backed only by anecdotal testimony as devoid of scientific value and worthy only of the scorn they heap on the subject.

How Witnesses Fail

Such blanket dismissal of careful observations by honest observers may cast scientists as arrogant, but their doubts have a sound basis. The truth behind an experienced event runs a formidable gauntlet of forces that pick at its integrity, rewrite its facts, and force it to fit personal and social preferences. This lineup of assailants is long.

Event and Experience

The event is the thing that really happened, the tree that fell in the forest whether anyone heard it fall or not, the UFO that flew over the neighborhood while witnesses slept in bed. Awareness of an event requires evidence—a downed tree, surveillance footage, or a witness. An observer does not access the truth of the event, only an experience of it. Its nature can be known, like the Zond reentry, or inferred, if the position of Venus corresponds in time and place to a UFO report; but often we have only what the witness tells us to work with, and a witness can relate only the experience, a personal version with an imperfect relationship to the truth.

Unfamiliar Stimulus

Deceptive events surprise the unsuspecting witness when rare sights like a large meteor or satellite reentry spring into view. The witness might recognize a balloon, mirage, murmuration of starlings, or searchlight on clouds in one circumstance but see only a mystery in another. A fire balloon at night, a bright meteor seen head-on, or an advertising airplane at an odd angle can appear quite weird, so can a familiar sight like navigation lights of a jetliner in receptive eyes. Venus has excited misidentification time and again when it shines exceptionally bright, passes in and out of clouds, or fulfills expectations as an airship's headlight or a UFO. When more than one stimulus crosses the field of view, a readiness to relate the unrelated poses an even more confusing problem for the witness. Perceptual orientation, one's physical and mental situation when called to observe, can make all the difference between recognition and puzzlement.

Perceptual Errors

When the eye plays tricks, UFOs may result. *Autokinesis* refers to illusory movements of stationary objects like a star or planet when viewed against a dark sky. A *contrast effect* results when a bright light appears to darken the surrounding background and dims or drowns out the stars as if a dimly seen mass eclipses them. When the eye connects separate objects into a single perceived form, the result is a *contour illusion*. For several separate lights in the night, contour illusion and contrast effects may combine to create the appearance of a dark body with lights attached. A more complex illusion-maker is *pareidolia*, a tendency to see random forms as meaningful objects, like faces in clouds or the Man in the Moon. In these cases, the perception is true as seen, yet a deception.

Conceptual Errors

The ability to relate a perceived stimulus to known phenomena and thereby identify it qualifies as an appealing but error-prone capability of the witness. A perception by itself is external energies impinging on human sensory systems. Close partnership between senses and conceptual abilities brings form and meaning to what William James described as the “blooming, buzzing confusion” of raw perception.⁴ Much of this connection happens without conscious awareness or effort, like recognition of a line or circle, or distinguishing a cat from a dog. In familiar territory, perception and conception work together with efficiency and reliability to associate a sensory encounter with a proper conceptual category, but extraordinary experiences force the conceptual faculties to find a box for unfamiliar and ambiguous perceptions.

Challenged with a literally unidentified sight, a witness may undertake the *escalation of hypotheses* process that J. Allen Hynek applied to UFOs.⁵ The deliberation begins with common conventional solutions, and if they fail, broadens to more exotic options, and as last resort, admits a genuine unknown, a real UFO. Sometimes the witness has a concept already in mind. In 1897, expectations

of a successful flying machine led witnesses to see Venus and fire balloons as lights on some inventor's airship, while the "flying saucer" name suggested a shape for many reports whether or not the objects really matched that description.

An effort to make sense of an observation is a natural desire best served by retrospection after the basic facts are nailed down, but a ready source of error in the observational process itself. Conceptual influences intrude on observation from the start. They may be unconscious at this stage, their source an established belief, familiar cultural idea, or hypothetical surmise, but a possibility that seems right in the moment of experience then hardens into an accepted truth that forecloses further possibilities. A conceptual orientation once fixed in mind becomes a powerful force to mold observations in its image. It can estrange the ordinary or conventionalize the extraordinary, also impose requirements that the witness must follow for the sake of consistency, determining a sort of *confirmation bias* that favors supportive observational data and overlooks whatever does not fit—or revises it so that it does. Wrong concepts impose what is supposed to happen onto the observation of what did happen to corrupt the very facts of an experience.

Memory

The moment an event passes, God alone knows what really happened. All the witness has is a memory. Remembered events do not store away like photographs or replay like a mental videotape but, according to researchers, return to awareness in an active reconstructive process that mixes facts, concepts, and interpretations to create a version of the experience as the witness knows it, not as the event really was. Some facts are forgotten, pseudo-facts added, and all memories structured according to conceptual demands, in processes that leave truth the worse for wear.⁶⁻⁷ A fresh memory may lie closest to the truth, but it is never finished. Modifications continue as second thoughts, new information, and social pressures interact with the materials of memory to create a version new in some respects. Sometimes the creation is literally new, a *false memory* of events that never happened or so distorted that they no longer resemble the parent event. Memory variations may be great or small, but not even "flashbulb memories" left from the day of John Kennedy's assassination or the *Challenger* disaster are immune to change when recalled.⁸⁻⁹ The variants may circle around a core of truth but always at some distance removed.

Reflection, Interpretation, Understanding

Efforts to understand and interpret an anomalous experience begin on the wing, amid the excitement and uncertainty of the experience itself. On-the-spot decisions about what is happening and why help shape how the witness remembers the experience, but the witness has a chance to review the facts later, to question initial impressions with a cooler head. Yet the remembered facts are no longer historical but personal, entangled with concepts, beliefs, and motives of the witness. The interpretation and understanding of a memory determine its future—realize you saw Venus and maybe the experience is not worth mentioning, or worse, should not be because you may look foolish; but if you saw a UFO, you might have a good story. Not truth alone but other uses and interests steer the memory's fate.

Communication

Sooner or later most witnesses of unusual events want to tell their story. They must first have a story to tell, and it calls for more than a recitation of facts. The aspiring narrator must verbalize personal memories in an account that is at least comprehensible and at best entertaining. An

inherently strange experience multiplies the difficulties. Words should picture events, but inadequacies of vocabulary may convey an inaccurate image. The story must order events in a meaningful sequence, even if the narrator must improvise or interpret to compensate for inexplicable parts and his own confusion. Some details get lost or misrepresented in the process, others added for clarity, still more for support of the narrator's opinions and understanding, to suit his or her personality, or even to project a desired self-image.

A story's debut on the public stage transforms private experience into communal property. To reach this point it has conformed to narrative and social requirements and compromised its authenticity for the sake of intelligibility and appeal. Beyond this threshold a personal experience starts a new life as secondhand information. Once told, the story becomes a subject for the hearers to receive, digest, and retell in individual ways, according to their own ideas, beyond the control of the witness and without the eyewitness experience as an ultimate point of reference. The words will hold different shades of meaning, the described events different understandings, and the assigned interpretations different degrees of credibility for every recipient.

The changes that befall a narrative when it passes from person to person have attracted the interest of psychologists, sociologists, and folklorists. Experiments on story transmission identify selection processes of *leveling*, whereby less important details diminish; *sharpening*, wherein narrators select important, striking, or interesting details to emphasize; and *assimilation*, choices and changes that shape the story to the hearer's beliefs, expectations, interests, and agendas. Social pressures bear on the narrator to respect norms and the audience to enforce them. The outcome is a shorter, tighter story that stresses the dramatic, emotionally gripping aspects and rationalizes unfamiliar or confusing content. Gain in satisfaction and appeal come at the expense of lost faithfulness to the source. Each recipient responds to a story with approval, enthusiasm, criticism, or doubt, and unless the reaction is disinterest, then passes it on to other receptive individuals. These like-minded persons form a transmission conduit that preserves and propagates their favored version, augmented with discussions, disputes, and adaptations to personal and group needs. The truth of the story comes to depend less on the experience of the witness and more on the shared preferences of the various factions that foster their chosen versions of the story.¹⁰⁻¹¹

The Scribes

Some of the audience not only listen but record the story in written or audiovisual form. This record preserves the story at a moment in its history and persists as a reference for readers to consult and—ideally—get their facts straight. While a fixed text curbs some freedom to improvise, it also disseminates a version compromised before it was ever written down. Novices seeking to educate themselves may trust any UFO book or website to present the official history of a case, but these sources vary greatly in their reliability, and their writers seldom act as disinterested historians. Journalists may have no further agenda than to report newsworthy events, though they may sensationalize UFO stories for the sake of entertainment. The best UFO researchers and skeptical investigators may dig into the story, even interview the source, in honest efforts to recover the facts, though they too may listen with biased intent. Much UFO literature has less to do with finding truth than with promotion of special interests, the authors blinded to any evidence but the supporting kind or even determined to slant the story so that it serves personal and audience beliefs. Reader beware—just because you read it in a book, it is not gospel truth.

Today's multiple channels of mass communication—published, televised, Internet, and social media—raise the bully pulpit for influencers to promote chosen images, expectations, and understandings. These channels give big voices to popular authors and media figures. These people acquire name recognition, a following, an aura of authority and expertise; their versions and opinions carry disproportionate weight among an audience of millions. Modern media open a cyber-forum for participants to share experiences and fantasies, to discuss beliefs and dispute ideas; they also close participants in an echo chamber for persuasion or pressure to conform to the group's beliefs and shut out alternative views. Who even needs Wi-Fi to connect with the influence of UFOs? Their memes have soaked into popular culture with near-universal awareness, many from movies and TV series where some stories are entirely fictional and some based on fact but partly fictionalized, like the cases in History Channel's *Project Blue Book*. UFO experiences have shaped modern culture. In return, a cultural script has lodged in our heads to prepare us, should we ever experience a UFO, with preconfigured ways to see, think, and talk about it.

The Phoenix Lights: An Example of Error Possibilities Realized

The perils that befall a UFO report make for dull reading in the abstract, but they come to life when the consequences are seen in action, and no more vivid example unfolds than the Phoenix Lights of March 13, 1997. Billed as the biggest mass sighting of all time, as many as ten thousand witnesses, including the governor of Arizona, watched an enormous UFO cross the heavily populated central corridor of the state that evening. Or was it two UFOs, or five, or more? A chorus of many witnesses led to a cacophony with much to teach about the foibles of eyewitness testimony.¹²

A warm clear night drew Arizonans out of doors, many to look at the Hale-Bopp comet then prominent in the sky. Just past 8 p.m. a triangular group of five lights passed Prescott then swung south toward Phoenix, some 120-130 km. away. As the lights departed Prescott, Phoenix resident Tim Ley and family spotted five starlike lights floating low in the northwest, enlarging and spreading into a "V" configuration as they approached. Ley suspected military helicopters, but the lights maintained too perfect a pattern for separate aircraft. In minutes, with the lights less than 2 km. distant, he saw that a dark V-shaped body carried the white lights, one at the tip and two on each arm. One light appeared to split in two for a moment. Sharp edges of the object showed against the stars as it passed directly overhead, silent though only 30 m. high as it traveled at a leisurely 50 km./hr. And it was enormous—each arm 210 m. long, so wide he turned his head from side to side to take in the whole. It passed over the city and disappeared to view in the haze and lights after more than 15 minutes of observation.

Confirmations came from many independent witnesses. The governor described a massive, silent delta-shaped craft with lights embedded in its leading edge. Witnesses across Phoenix and its suburbs spoke in awe of a black boomerang 1.6 km. wide and outfitted with five lights. There were also differences: increases and decreases in the number of lights, a few diamond or rectangle shapes. One account described a 1.6-km.-wide disk that reflected ground lights off its underbelly, another told that a black triangle 3.2 km. wide with dozens of lights and silhouettes of human figures in the windows swept low overhead. The most persistent alternatives denied any connecting structure as witnesses insisted that the lights were independent, confirmed for some when they saw a light break formation, drop behind, then catch up again.

The sightings lasted until about 8:45. Local news of the events broke almost immediately so that many people were on the lookout at 10 o'clock when a second UFO event occurred. A curving line of nine bright lights burst into view in the southwest and hung low in the sky before the lights blinked out one by one. While only one video recorded the 8 o'clock UFO, several witnesses videotaped the 10 o'clock event, which later played on national TV with spectacular views that became synonymous with the Phoenix Lights. The experience etched a deep impression in the memory of witnesses. Many dug in their heels against efforts to conventionalize the event, some thought it was alien, some regarded it as a life-changing, even spiritual experience.

Ufologists first accepted all reports that night as part of a unitary Phoenix invasion and interpreted different descriptions as evidence that seven types of UFOs had converged on the city. Later reflection narrowed the field to two events, the big triangular craft at 8 and the arc of lights at 10. Both ufologists and sceptics found that the 10 o'clock lights issued from the direction of a military proving ground and, after initial denials, the Air Force admitted that National Guard aircraft had jettisoned unused flares at that place and time. Some skeptics concluded that flares explained all the events, leading to general indignation among witnesses and a conspiracy theory that Air Force planes dropped the flares in a calculated attempt to discredit the UFO sightings.

Holdouts continued to believe the 10 o'clock lights were UFOs, but attention shifted to the earlier sightings as the true Phoenix Lights mystery. The Air Force dismissed the event as a formation of aircraft, but most UFO proponents closed ranks around the thrilling narrative of a giant V-shaped spaceship over a major city. But local reporter Tony Ortega supported the Air Force explanation, citing an amateur astronomer whose telescope revealed the lights attached to aircraft, and several witnesses with military and aviation backgrounds who confirmed this identification. Simple calculations of flying time from Prescott to Phoenix gave a speed of 480-640 km./hr. for the lights, in other words, typical cruising speed for jets. A conventional solution for the 8 o'clock sightings is overwhelmingly persuasive: Five military aircraft flew in a V-formation at 6,100 meters with their landing lights shining between Prescott and Phoenix, perhaps a little beyond. We know what the Lights were even if the witnesses did not. We know what they saw, what they could and could not see. The author gathered 128 published accounts to investigate the differences between witnesses and their reports and bases the following results on this sample.¹³

Most witnesses agree on several basic facts—they saw five lights according to 68% of witnesses who provided a number, in a triangular pattern (87%), and headed southward (79%). Those few accounts with extreme idiosyncratic descriptions—a truck driver watched lights for two hours as he drove toward Phoenix, another witness saw lights move in right angles and circles—are mostly single-witness and probably describe objects unrelated to the mainstream Lights.

Only one significant issue divides the witnesses: One group reported a solid structure bearing lights (37%), the other reported only the lights (54%). Those who reported a structure assert they saw it with their own eyes; those who did not gave reasons that they had a good look but saw no connecting framework, saw stars between the lights, or saw independent movements among the lights. No matter how the witnesses interpreted their observations, their descriptions converge toward the same general picture, a mainstream account likely to reflect observational facts. These same descriptions also fit an overflight of aircraft with considerable fidelity. The fact that no

witness reported both the solid craft and the formation of lights in view at the same time or in close succession adds telling evidence in favor of a single source.

Estimates of height, speed, and size missed the mark, as usual. Though a consensus held that the UFO was large, how large ranged from the size of a football field (91 meters) to kilometers. Every guess at altitude set it low, rarely as high as 1.6 km., and the speed as blimp-like. In fact, the aircraft were several kilometers high and their apparent slowness was due to distance. Few witnesses checked a clock at the time of sighting, but fifty-seven out of 102 cases with some indication of time (56%) fall within a few minutes of the expected time of passage for landing lights on their course across the state.

The V-shaped craft owed its nonexistence to a combination of contrast effect and contour illusion. Landing lights on the jets outshone starlight and dimmed or blotted out the stars, an appearance interpreted as an opaque or translucent object that crossed in front of them. The contrasting fields of darkness beyond the lights created an illusion of connection that converted open spaces between the jets into the appearance of a massive framework. Those who reported a vast and solid craft gave honest accounts of what they saw, but the observations were illusory.

As they watched, witnesses formed concepts that shaped their understanding and their observations. Tim Ley rejected his first thought of military aircraft when he failed to see the independent movement he expected. The illusion of a solid object and the concept of a V-shaped craft may have led him to overlook the implications when a light appeared to divide. With his understanding already in place, the incident meant nothing more than an odd detail. Other witnesses understood the event as a jet dropping out of formation and proved to their satisfaction that the lights had no physical connection. The witnesses in nine cases saw a lagging light and read it as an independent UFO breaking formation, while three others thought that the light exited or detached from a triangular craft then returned, as a scout to the mother ship, in examples of an observation rationalized to fit a concept.

No sooner did the news media take notice than they began to shape individual stories into a coherent and influential narrative. It often entangled the 8 and 10 o'clock events to leave the false impression of a single event, with the videos as persuasive support. The media narrative also played up the most sensational attributes of the Phoenix Lights, often with emphasis on Tim Ley's eloquent account and iconic illustration to popularize the image of a giant V-shaped craft as "what really happened" that night. This version left no doubt that the Lights represented an alien visitation without having to say so outright; this same version appealed to UFO proponents who joined the pro-UFO witnesses as stout defenders. Eyewitnesses to the "spaceship" needed no further persuasion than their own experience, just as witnesses convinced that the lights acted independently had to reject the craft, even if they regarded the lights themselves as UFOs. In between stood witnesses who saw lights but lacked commitment to their nature. The memories of these people remained pliant, vulnerable to the proponents' pressures, the media's authority, and the allure of popular images to push ambiguities aside until possibility crystallized into certainty.

A comparison of reports that went on record soon after the sightings and those delayed for years offers some evidence that publicity did tip the scales. Witnesses reporting a solid object increased from seventeen in 1997 to twenty-seven in later years (32% to 38%); reports of separate lights

grew only from thirty-three to thirty-six over the same period, for a percentage decline from 63% to 51%. Reports of the Lights in a V or triangle increased slightly from 75% to 79%. The trends are minor, but their direction suggests that the well-circulated image of a boomerang craft encouraged more witnesses to report this type of sighting, or to conform their reports to these expectations. Another trend shows that more latecomer reports bear questionable relationships to the mainstream Phoenix Lights. Ten cases in 1997 differed radically in time, location, or description, twenty-four followed 1997 (19% to 24%). Perhaps publicity convinced witnesses of odd sights that what they saw belonged with the Lights, or perhaps some people just sought vicarious participation in this exciting and famous event.

The Phoenix Lights story drew interest from well beyond the eyewitness population. One community of belief committed to the reality of a UFO visitation, the other to a conventional solution. Each side defended its ground and gathered supporters, welcomed confirmations and cold-shouldered the rest. The proponents have enjoyed an edge in excitement and to this day treat the lights as an event of momentous significance. Some people claim alien spacecraft continue to haunt the city. Rumors that fighter jets pursued the Lights, that a private plane passed above a mile-long craft that blotted out lights on the ground, contribute to an aura of wonder that surrounds the story. Writers and ufologists sometimes elevate this case to best-evidence status despite the negative evidence. A new story has supplanted the messy one told by the witnesses, a communal version with inconvenient facts omitted, the most dramatic aspects emphasized, and the meaning defined as alien visitation. This collective creation blends individual stories and elements preferred by the intended audience into a generic version widely known and oft repeated, but unfaithful both to the experiences of any one witness and to the implications of the total testimony. True to wishes but false to evidence, this version proves only the human will to believe.

High Strangeness

All UFO observations discussed so far have been of the ordinary sort—strange but still within bounds of the everyday. The subject relates to the object in the same way as any witness with all faculties intact observes a passing car, airplane, or bird. But examples of “high strangeness” have also accumulated in the UFO literature, cases where UFOs vanish, beams of light bend like solid material, and entities pass through solid walls like ghosts, defying both the laws of physics and common sense. The UFO abduction experience tops the chart for not only subjecting witnesses to mind-bending experiences, but for tampering with their minds as well. When we enter the realm of high strangeness, we are not in Kansas anymore.

The phenomena of abduction reports encompass many aspects of high strangeness. A sleeper awakes unable to move, shadowy humanoids float her out of the house and into a spaceship. A pervasive silence like a vacuum descends on a motorist, his car stops, all traffic ceases, and surrounded by this Oz Effect, he levitates into a UFO. In a fluorescent room the beings subject the helpless captive to a bizarre medical examination and instill thoughts by staring into his or her eyes, often images of mass destruction or an idyllic paradise. Returned to the everyday world, the captive realizes a period of missing time and fears certain sights and situations but remembers the forgotten encounter only through flashbacks, nightmares, or hypnosis. UFO abductions compare in some respects to kidnap by fairies, journeys to the underworld, and shamanic initiations. They mingle the real and the surreal as they leave marks, cuts, and muddy feet yet escape independent observation or fail to wake a spouse asleep in the same bed.

The kneejerk first response dismisses abductees as crazy, liars, dreamers, deluded, anything but normal and reliable witnesses. Yet psychological tests demonstrate that they are not psychotic, though they may exhibit characteristics of having suffered a traumatic experience. They are often high functioning, accomplished, intelligent, educated people and one is a Nobel Prize-winning scientist. Abductees represent a cross-section of society out of the ordinary only insofar as they report an extraordinary experience.¹⁴

For the skeptics who regard these stories as fantasies, the real author is not the abductee but the investigator, whose efforts to recover repressed memories by hypnosis instead create imagined ones. Research into memory processes, much of it carried out in connection with the 1980s epidemic of unfounded sexual and ritual abuse claims, discovered abundant evidence that hypnotist and subject can confabulate elaborate stories of events that never happened. Suggestions to remember what the investigator wants to find combined with the now-familiar content of UFO abductions plant the idea, repetitive reinforcement solidifies false memories until they feel as real as genuine memories. If the subject is susceptible to suggestion and already interested in UFOs, so much the better; and if the subject has a fantasy-prone personality, the resulting story can emerge as a masterpiece of creative imagination.¹⁵

Another path to becoming a mistaken abductee is sleep paralysis. The experience of waking unable to move and hallucinating a terrifying intruder, recognized in many cultures but nameless in America, is rare enough to leave most victims grasping for an explanation and finding UFO abduction as a suggestive possibility.¹⁶ Then there is Lewy Body Dementia, most common but not limited to older adults, wherein vivid hallucinations may take the form of small or childlike entities with large black eyes and so lifelike that conversations ensue. Nightmares, hallucinations, fugue states, and other possibilities of subjective origin arm skeptics with ample ammunition to attack the literal reality of abductee accounts.¹⁷

A defense for objectively real UFO abductions is a hard case to argue. Implausible on the surface, without firm evidence in hand, with less radical psychological solutions available, the story leans heavily on the testimony of abductees just when their credibility as witnesses seems most questionable. Not that their honesty or sincerity is at stake, but the reality of their accounts certainly is. The possibility of a physical event has circumstantial support like Barney Hill's scuffed shoes and broken binocular strap, multiple-witness cases, and a coherence in the narrative that predates widespread public awareness; but this evidence is flimsy compared to the likelihood that suggestion, confabulation, false memories, and cultural influences not only shape the stories abductees tell, but even put the words they speak into their mouths.

When abductions exploded on the ufological scene in the 1980s, they dazzled proponents with a promise to validate everything they believed about UFOs. Indisputable evidence seemed within grasp, after years of accumulating thousands of ambiguous sightings that always fell short in some way. By the late 1990s, failure to deliver had tarnished the shine and cleared the sight of those willing to look. What they saw was that a claim as fantastic as alien abduction stood no chance of scientific acceptance when ufologists could not even satisfy official science that UFOs existed.

On the principle that it is better to start at the bottom than the top, abductions and all high-strangeness cases qualify as overreach. Is the strangeness inherent in the events? Does it represent magical technology or encounters with parapsychical phenomena? If so, can witnesses perceive, much less understand, what is going on as free observers, or are human senses inadequate, human interpretations completely off base, the human mind itself impaired by outside control? Or is it all just a well-promoted assemblage of extreme misperceptions and misconceptions? A final judgment requires learning more about high-strangeness cases, more about the experiencers, and more about how to separate objective from subjective experience; but for now, the most reliable witnesses and the most substantive UFO cases reside at the low end of the strangeness spectrum, where all the anomalousness belongs to the UFO and most of it seems physical in nature. Here lies the most accessible evidence for UFOs, and here belongs the foundation for study of the rest.

The Good News About Witnesses

While cases of extreme error stand out like rare and gaudy birds in a flock of starlings, sure to arrest attention and stick in memory, they fall far outside the norm. Reports of the Zond reentry contained a few wild deviations and some lesser errors in estimated quantities and word usage; but accurate reports of a group of lights, silence, movement, and identity as reentry fragments or meteors were far more common. Most reports remained faithful to observable facts even when witnesses misinterpreted them. The Phoenix Lights divided witnesses between a V-shaped craft with five lights and five separate lights in V formation, but everyone saw lights and most saw five in a V pattern. Even reports of deviant configurations may accurately describe the formation flattened in appearance by a low angle of view. Even when distorted and misidentified, the factual sights repeated in almost every mainstream account, even down to the light that jogged out of line, however the witnesses understood it.

The Zond and Phoenix cases uphold rather than demolish everyday trust in eyewitness testimony. Despite the suddenness and excitement of a UFO encounter, against preconceptions, agendas, and pressures, most witnesses in two mass sightings demonstrate reliability in reports of observable features and a dependable lack of reliability when reckoning size, altitude, and speed. Here is a finding worth repeating: Witnesses of UFOs make good observers, with reservations. They see something, they register the visible facts in their awareness, and they convey those facts in their reports. Witnesses are never perfect, but if error sometimes corrupts the facts of a UFO observation, it rarely destroys them, and true interpretations often win out over false.

To Trust or Not to Trust

If UFO witnesses can be accurate observers, their anecdotal evidence is not the junk hard science condemns, but the question shifts to when they are accurate. Scientists can rely on their instruments to provide a sound basis for research. Ufologists too want trustworthy answers but face two unknowns—the UFOs they wish to explore and the uncertainties of the data with which they work. Since anecdotal testimony usually provides the only UFO evidence, throwing it away is not an option; but ufology's data serve little purpose without some way to distinguish who relays facts from who obscures them. No one can read minds or turn back time to share the experience. We can anticipate errors in estimates of size and when common illusions play their tricks, or we can take warning when two witnesses look at the same UFO and describe it in opposing ways; but in most cases a decision on who to trust ends up as a personal choice, a flip of a coin, or an application of Occam's Razor.

Another approach combines two “bests”—best reports and best witnesses—to work around the trustworthiness dilemma and secure an improved UFO sample for research. Hundreds of thousands of reports have entered the records since 1947 and some of them must describe real UFOs, if any real UFOs exist. Genuine UFOs are rare and reports informative enough to be useful are rarer still; but winnowed from the reams of mistaken identities and concentrated into a doubly refined sample, these UFOs offer researchers the most promising materials to recognize, collate, and study for traits of a unique phenomenon.

A two-pronged approach to collect a UFO-enriched sample starts with cases already rated as likely unknowns. Military and government agencies, reputable UFO organizations, investigators, and writers have gathered promising cases that defy conventional identification. These reports need to be rich in information, full of descriptive details. Each report must have reliable provenance—known sources, identifiable witnesses, accounts in the witnesses’ own words. Essential to establish the quality of a case is an investigation by trustworthy and qualified parties who can gather facts, interview witnesses, and judge both the reporters and the events reported. Each case should face a trial by critics who search for conventional solutions, checking for Venus in the right position, meteors, reentries, and the like; and only if the case passes these tests should it count as worthy.

Witness quality adds a second standard for desirable reports. Most UFO cases are single-witness and rank lowest for reliability. Two or more witnesses are better and best of all are multiple independent witnesses whose reports can be cross-checked for concurrencies and idiosyncrasies. The reliability of witnesses is important—do they have a reputation for honesty and good standing in the community, does the investigator consider them honest, serious, competent, mentally stable, conscientious to communicate a strange experience as best they can, and not engaged in a hoax?

Two other characteristics boost witness value: One is training, experience, education, or profession when it equips them to be better than average observers and interpreters of observations. The other is a job or circumstance that places them in a favorable position to observe. People who fit one or both categories include military—pilots, air traffic control, guards, and sentries; civilian aviation personnel—airline pilots, ground control, airport workers, and private pilots; scientists and engineers—astronomers, meteorologists, and aviation engineers; law enforcement officers—police, sheriffs, border patrol; lookouts and observers—forest fire lookouts, ships’ watches, weather observers, the Ground Observer Corps. These groups comprise an elite among witnesses, responsible, vigilant, often familiar with the sky and aerial phenomena, prepared to make calm and informed observations of an unfamiliar sight. Their qualifications raise the trust issue from the individual to a more practical collective level.

Even the best observers make mistakes, like airline pilots fooled by a meteor, or police led on a chase by a bright star. Some cases now inexplicable may yield to new information or investigation. Ufologists cannot hope for a perfect sample, only a better one with an enhanced ratio of unknowns to IFOs and a better chance to identify patterns and consistencies of a possible UFO phenomenon. The cases reported by elite observers and surviving all challenges to their unknown status present the most promising sample for researchers in this imperfect world.

Putting Theory into Practice

The author undertook a small study to see if high-quality observers of unknown flying objects provide evidence for consistent UFO characteristics.¹⁸ The sample consists of 697 unknowns and 102 IFOs reported by seven observer groups: military personnel (air, ground, and air + ground), civilian aviation personnel (air and ground), scientists and engineers, and lookouts. Sources for reports include Project Blue Book unknowns, NICAP yearly chronologies, NARCAP, the Condon project, and a study of UFO experiences among forest fire lookouts.¹⁹⁻²² The reports are worldwide though primarily U.S., and dates range from 1943 to 2015. These cases reflect selection bias in favor of rich information, known investigation, daylight or twilight hours (52%), multiple witnesses (70%), and duration of one to ten minutes (31%).

Important Content Features

The study tracked thirty-three elements of appearance and behavior that recur in reports by the seven witness groups. The percentages are averages for all groups:

Description

The flying saucer or disk shape is the most common (37%), followed by round (sphere or disk seen at a high angle) (20%), light (20%), cigar or cylinder (14%), and triangle (7%). The most common colors are metallic or silvery (26%) and white (24%). Structural features like windows, domes, and fins are scarce (16%).

Size and speed

These estimates may improve among military and airline pilots thanks to their training and experience, while balloon trackers and weather observers sometimes have the aid of theodolites. Only half of the sample reports provide figures for size and speed. The given sizes favor ten-100 feet (21%), more than 100 feet (16%) and less than ten feet (8%). Speeds are fast (supersonic or more, 24%), moderate (200-750 mph, 15%), and slow (less than 200 mph, 6%).

Maneuvers

Two-thirds of the cases mention UFO maneuvers, and in 20% characterize the actions as exceptional, using terms like “dogfighting,” “like nothing I’ve ever seen,” or “flew circles” around a jet. The UFOs climb or descend (32%), change direction (38%), sometimes at right angles or in circles and U-turns with a radius too tight for an aircraft. Zigzags, falling-leaf movements, spins, rolls, and flutters occur at lower percentages.

Three maneuvers are especially noteworthy: 1) Fast stop-and-go (25%). The UFO flies at high speed, stops suddenly, hovers, then whizzes off again. 2) High variability in speed (23%). The UFO suddenly accelerates or decelerates up, down, or side to side, at speeds impossible for aircraft or human pilots to survive. 3) Fast departure. After engagement with an aircraft or an object on the ground, the UFO accelerates from a dead stop or pacing speed to tremendous velocity and out of sight in seconds, headed straight up, away at an angle, or off toward the horizon. Examples of this maneuver are certain or probable in 44% of cases, no or probably not in 24%, and not observed or not reported in 25%. In the remaining 7%, the UFO blinks out or vanishes, though whether the lights go out, the object physically disappears, or it speeds out of sight in a literal blink of an eye remains uncertain.

Purposeful actions (?)

Some activities lend themselves to subjective interpretation as deliberate. Military and civilian pilots most often report these events, which nearly halves the sample to 331 cases; and of these, 26% interpreted fast, head-on, or close approaches as threatening behavior, 24% said that a UFO paced, trailed, or pursued their aircraft, and 21% believed that a UFO turned away or fled as they attempted to approach it. Smaller percentages from both air and ground witnesses attributed curiosity, purpose, or “showoff” displays to UFOs.

Comparisons Among the Witness Groups

Taking the total averages for each of the thirty-three content features as benchmarks, the groups of elite witnesses agree with no more than 10-20% variation in 135 out of 231 (7x33) possibilities. The smallest group (Military Air-Ground) deviates the most, and speed estimates also go astray, but the general picture is one of consistency. Some features are familiar and expected, like the disk shape, but others are not, yet they still recur.

UFOs vs. IFOs

A sample of 102 cases from the same lists as the UFO sample provides comparison of UFOs with conventional objects mistaken for UFOs. These identified flying objects originate with the same high-quality observers as the UFOs and contain similarly rich information. Some of them are famous, but fame does not make facts, and these cases have what the author considers plausible conventional explanations. Compared to the 697 UFO reports, the IFOs post lower averages for most features but higher averages for “undesirables” like long or short duration of sightings and absence of maneuvers. A clear pattern of difference separates the two samples.

Best cases

100 reports selected from the 697 sample represent the “best cases,” those that the author considers the most promising examples of a genuine UFO phenomenon. When compared with the 697, almost all “positive” features increase, like disks, maneuvers, and fast departures. The selection criteria for the “best” sample favor multiple witnesses, independent witnesses, and a moderate duration, but descriptive indicators of an unconventional phenomenon grow as well.

Fast-departure sample

100 reports that include the fast-departure maneuver surpass the 697 sample averages for every positive feature, and closely parallel the best-case sample, though with slightly fewer disks and fast speeds, slightly more medium size and slow-fast maneuvers, and, of course, fast departures. If fast departure corresponds to a true earmark, it suggests the other prominent features within the sample are true, while the near match between this sample and the best-case sample lends mutual support for these features. Here, then, elite witnesses introduce some strong candidates for ways real UFOs look and act.

A graph sets these comparisons side by side, with eleven features expressed as percentages for the IFO, 697, Best Cases, and Fast Departure samples. The features left to right are: 1) One to ten-minute duration, 2) Disk, 3) Metallic, 4) White, 5) Medium size, 6) Fast, 7) Maneuvers (any), 8) Up-down maneuvers, 9) Hover, 10) Slow-fast maneuvers, 11) Fast departure.

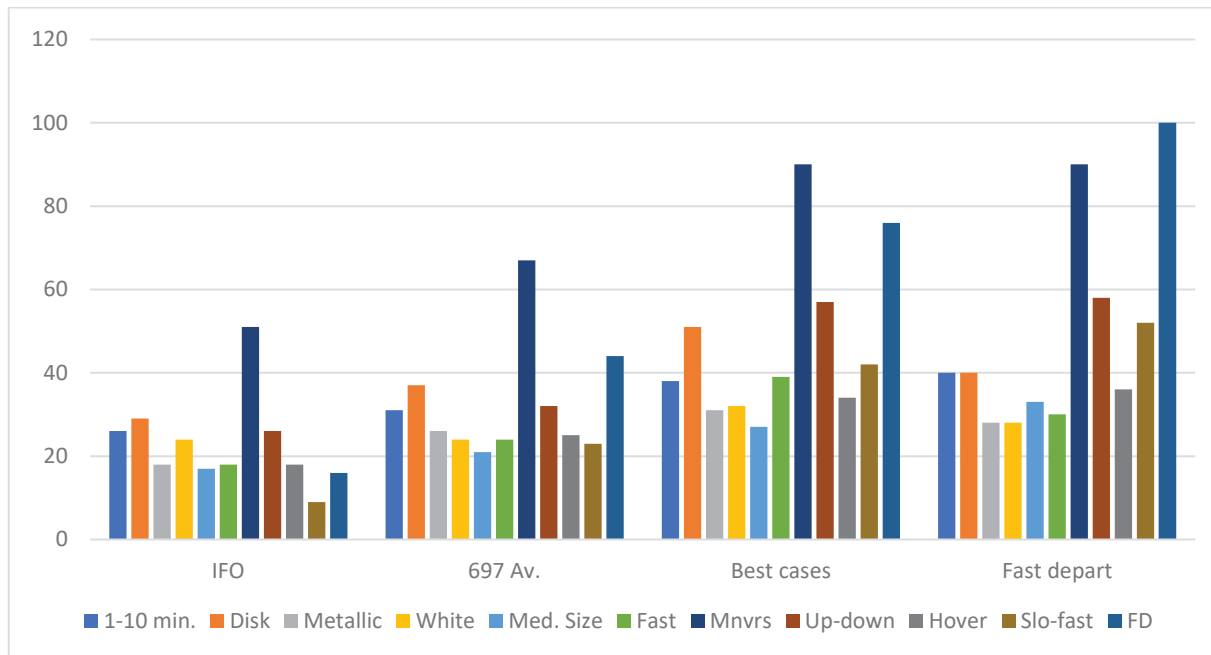


Table 1: Comparison of Select UFO Features in Four Samples
Source: Bullard, “UFOs in Practiced Eyes” (forthcoming).

The graph reveals across-the-board differences between IFOs and UFOs, and enrichment in certain earmark features for the select samples in comparison with the 697 unknowns. This study suggests that witness quality matters, that witness qualifications make a difference and deserve treatment as a significant variable. Crude as it is, the study also hints that something more than human error underlies a small remainder of UFO reports. Remove the clearly conventional, forget the lights in the night that leave little to judge, and consider only the carefully observed and described reports of qualified witnesses, and a pattern begins to emerge among these unknowns. The witnesses include test pilot and future Mercury astronaut Deke Slayton, astronomer Clyde Tombaugh, and legendary aviation engineer Kelly Johnson, along with half a dozen of his fellow Lockheed test pilots and engineers. The stories themselves are anecdotal but strong, detailed, and confounding. If any eyewitness evidence deserves consideration, these reports do.

Does a distinctive UFO phenomenon exist? Maybe the unknowns amount to a heap of oddball leftovers, unrecognized natural events and unresolved human errors dumped by scientists as trash but embraced by ufologists as treasure. If the reports represent an accumulation of junk, they should reflect the randomness of their origins, but this little study shows something more. Rather than scatter far and wide, the reported features converge and gain in frequency as sample and witness quality improve. Maybe sample bias and psychosocial influences herd the data toward familiar stereotypes but features like fast departure and fast-slow movements are complex, robust, and outside the popular spotlight, yet their frequency also grows in tandem with sample quality. An alternative possibility allows that elite observers diverse in expertise, training, and situation, who report similar experiences in detailed and independent-minded accounts, may simply describe consistent external events.

Yogi Berra, baseball's master of malapropism, allegedly said, "If I hadn't believed it, I wouldn't have seen it." Whatever its origin, the quote repeats a sage reminder that the UFO witness is a flawed instrument, variable in quality and capable of going far astray, yet often accurate and even at worst, likely to preserve observational facts. The better the witnesses, the better vetted the reports, the more consistent the attributes of the UFOs become. Perhaps even the most striking elements will dissolve into some form of illusion, but they are noteworthy enough to deserve further and more painstaking inquiry in case the witnesses have tapped into distinctive traits of a unique and unknown phenomenon. Perhaps with UFOs, seeing will turn out to prove believing after all.

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Bizarre Accounts: Remarkable Missile Sightings from the Canary Islands in the 1970s

Ricardo Campo Pérez

“Tell me, do you not see that knight coming towards us on a speckled gray steed,
who has on his head a helmet of gold?”
“What I see and distinguish,” replied Sancho, “is only a man on a gray ass like mine,
who has something shining on his head. [...]”
[Don Quijote] told Sancho to pick up the helmet, and he took it in his hands and said:
By God, the barber’s basin is good, and worth a real of eight if it is worth a maravedí.
Miguel de Cervantes¹

Abstract: The reliability of UFO eyewitness accounts is far from being sufficient proof that some unknown phenomenon exists, let alone an extraterrestrial presence on Earth. This article offers some considerations on the psychology of perception necessary to evaluate such testimonies in general, and, in particular, deals with two relevant examples drawn from the international literature: observations made in the Canary Islands on June 22, 1976, and March 5, 1979.

Keywords: Testimonies, Psychology of perception, Missile launches, Canary Islands

Some Psychosocial Keys to Witness Testimony

The goal of classical ufological research should be to ascertain whether UFOs are—as Don Quixote discovered—merely barbers’ basins and not the helmets of mysterious knights-errant. But most ufologists prefer to believe such mundane objects could possibly lie at the core of astonishing eyewitness testimony. However, “barbers’ basins” are a category that includes Venus, airplanes, fireballs, space debris re-entries and the like.

Perhaps this sort of ufology should have ridden off into the sunset when the Condon committee published its discouraging conclusions in 1969:

One’s judgment, conviction or belief about the actual identity and meaning of something, that is, one’s cognition of it, are very much affected by mental set, expectation and suggestion. Every observer is ready to perceive reality in a certain way. The observer’s sets and expectations arise from his experiences, opinions and beliefs, including those derived from suggestion. The observer who looks for faces in cloud patterns can find them easily.

*No report is an entirely objective, unbiased, and complete account of an objective and distal event. Every UFO report contains the human element; to an unknown but substantial extent it is subject to the distorting effects of energy transmission through an imperfect medium, of the lack of perfect correlation between distal object and proximal stimulus, and of the ambiguities, interpretations, and subjectivity of sensation, perception and cognition.*²

¹ *El ingenioso hidalgo Don Quijote de la Mancha* I, 21 [1605] Barcelona, Spain: Labor, 1969.

² Michael Wertheimer. “Perceptual Problems.” In *Final Report of the Scientific Study of Unidentified Flying Objects*. Edited by Daniel S. Gillmor. New York: E. P. Dutton & Co. in association with Colorado Associated University Press, 1969, pp. 559-567.

In fact, what M. Wertheimer states in the above passage was nothing new in the field of the psychology of perception. The only novelty was that such considerations were coming from a governmental body. The inevitable conspiratorial suspicions that followed, present in the history of ufology since the first official research projects (Sign and Grudge), were reinforced when the University of Colorado shut down the debate on the importance of the UFO phenomenon as a matter relevant to U.S. national security.

It is paradoxical that a hegemonic power such as the United States did not have the capacity to impose the skeptical conclusion of the Condon report through propaganda. One can only assume that, perhaps, it was skepticism motivated by self-interest; a public smokescreen to disguise other activities that did respond to a genuine interest in developing deterrent measures against anyone who might challenge them. If so, the press played a decisive role in an unwitting symbiosis with the U.S. government.

The general history of UFOs, comprising innumerable minor stories and endless speculations, became entangled over the years, which worked to the advantage of those who administered military and cultural power, in the latter case the media. The UFO phenomenon was thus in large part brought into being by the media themselves. Within it, the Big Story comprised testimonies about personal or collective experiences that were unclear, blurred, and with an important emotional component. In this sense, UFO stories were a foretaste of the postmodern overvaluation of personal experiences, of ever-present emotivism, of the vindication of relegated discourses and of the fabrication of minority identities. But what was the real value of these testimonies as proof of an extraterrestrial presence on Earth?

One of the most striking signs of the *autistic* character of mainstream ufology is the detachment of its practitioners when evaluating testimony. It thus overvalues the relevance of the spoken word, which betrays its orientation (more gnostic and religious than scientific), tending more to numinous and intuitive contact than to rational scrutiny. Before the appearance of present-day ufology—leaving aside the Fortean antecedents in the 19th and early 20th centuries—psychologists demonstrated that eyewitness testimony is not perfect, far from it. It was in the courtroom where this fact became apparent. In the forensic field, scientific concern for the value of human testimony began with the relationship between psychology and law, giving rise, as is natural in scientific research, to experimental forensic psychology.

In the late 19th century, psychologist Albert von Schrenck-Notzing warned that media publicity and contact with others involved in a case can seriously alter a subject's testimony when testifying at trial. Shortly thereafter, James McKeen Cattell conducted several experiments on the reliability of human testimony, finding that, for example, subjects in one experimental group were not even able to give a consistent answer as to what the weather conditions were for the previous week, since they could give a series of statements covering all possibilities of good or bad weather on simultaneous days. Other elements that soon became apparent were the pernicious effect of leading questions and the influence of expectations on the witness, which can lead them to see and hear whatever they want or what the investigator directs them toward.

If the reliability of witness testimony has been a neglected factor in standard ufological research, no less attention has been paid to memory, which is, in the final analysis, what the witness relays

to the interested party. Scientific consensus assures us that the memory of any event consists of a standard outline of what happened updated with details of the specific episode; thus, our memories are usually like caricatures of reality, in which some features stand out more than others, which in turn are erased or greatly blurred. When we are asked to recall a relevant event, we are implicitly asked to provide a coherent and complete story of said event, that is, to provide a “photograph” based on the vision produced; and to accomplish this task we must fill in the blurred or non-existent details of the event that we do not store in our memory, a process that is carried out through inferences drawing information from our previous knowledge and experiences, and from the information provided after the event. In general, our memories are caricatures of reality, in which some features stand out more than others, which are erased or blurred.

To the perceptual factors must be added the beliefs of the witnesses, shaped by their upbringing and the social environment in which they live. Regarding the belief factor, psychologist James R. Reich³ noted that virtually all human beings experience, to some degree, three psychological traits: depression, dissociation, and attention deficit hyperactivity disorder. Although these conditions take on a pathological character at their highest levels, at their lower levels everyone experiences them on some occasions. More importantly, these traits can act as inducers of paranormal beliefs and perceptions. In particular, Reich notes, “people with some level of dissociation tend to manifest a diminished critical appraisal of reality, they may feel strange about themselves to the point of thinking they are experiencing an out-of-body episode.” In addition, they may have anomalous perceptions about the passage of time in their own experiences, and may feel that the world “is not quite real or rather diffuse.”

In the case of attention deficit hyperactivity disorder—Reich supports his arguments with several empirical investigations with human subjects—individuals with this disorder have a tendency to lead active, exploratory lives, similar to those in science fiction stories. Thus, it makes sense that people with subclinical levels of this disorder repeatedly think about and believe in strange menacing animals such as Bigfoot and the Loch Ness Monster, and in UFOs and extraterrestrials, which provide evidence of possible adventures beyond Earth. For their part, the depressed may be more likely to believe in aliens and UFOs. In addition, movies and television programs abound that allude to abductions as a joyful sign of having been chosen, over and above earthly torments.

The following will focus exclusively on perceptual factors and the production of anomalous testimony.⁴ As examples, I have chosen two well-known episodes which, moreover, I have had

³ James R. Reich. “The Eyewitness: Imperfect Interface Between Stimuli and Story,” *Skeptical Inquirer*, Vol. 17 (Summer 1993), pp. 394-399.

⁴ Examples of such misinterpretations are very abundant in the international literature and, for reasons of space, we cannot dwell on them as extensively as we should. The case of civilian pilots Clarence S. Chiles and John B. Whitted, who observed a large fireball with two rows of illuminated “windows” on July 24, 1948, flying over the state of Alabama, deserves to be remembered. They described it as “a strange craft whose behavior and design were alien to all terrestrial technology.” Of special importance in ufological historiography is the case of the re-entry of the booster rocket of the Soviet Zond-4 probe on March 3, 1968, at about 21:50 hours. Thousands of Americans observed a striking procession of incandescent objects with gold and orange tails moving across the sky departing from a “fuselage.” Three witnesses reported seeing a single object traveling at “tremendous speed” at an altitude of “no more than 2,000 to 5,000 feet.” Another group of witnesses reported that “it was at treetop altitude, could be seen very clearly, and was only a few feet away” (Donald H. Menzel. “UFO’s. The Modern Myth.” In *UFO’s A Scientific Debate*. Edited by Carl Sagan and Thornton Page. Ithaca (New York) and London: Cornell University Press, 1972, pp. 123-182).

the opportunity to investigate in detail. Although their explanation was obvious long before, both were documented in 2001 through the publication of several articles in specialized magazines⁵ with findings extracted from international databases of missile launches. These are the spectacular phenomena observed from the Canary Islands (Spain) on June 22, 1976, and March 5, 1979, caused by the launching of Poseidon missiles from U.S. Navy submarines at a minimum distance of approximately 750 km west of the islands.⁶ Let us look at some of the most striking claims.

June 22, 1976, Canary Islands

This case is relatively popular in the international ufological literature, but, in reality, poorly known for having been presented in a biased way. As it is about the alleged landing of a transparent craft with two red beings inside, it became a “classic” of world ufology. The most popular witness was physician Francisco Julio Padrón León, who was on his way by cab to visit a sick woman, resident in the neighborhood of Las Rosas, in the town of Gáldar. It was 22:15 local time. From the surprising description provided by the doctor and the driver, only the mention of a large transparent sphere is reliable, although, in reality, it was hundreds of kilometers away from the archipelago. The doctor’s testimony appears in the official file declassified by the Spanish Air Force in 1994.⁷

The call to visit the sick woman was urgent, so I grabbed my briefcase and we set off as quickly as the case required towards Las Rosas. To get there, we had to travel six kilometers on the Las Palmas-Agaete main road and then take a detour on a steep country road in very bad conditions for about two more kilometers. When going up the last steep slope of the road, the car’s headlights focused on a slightly luminous sphere that was stationary, very close to the ground, I think, but I could not tell if it was touching it. It was made of a totally transparent material, as if it were crystalline, because through it one could see the stars in the sky. It was electric blue in color, but faint without dazzling, and its radius was about 30 meters. In the first lower third of the sphere there was an aluminum-colored platform as if it were metallic and three large panels. On each side of the central one there were two huge figures about 2.50 to 3.00 meters tall, but certainly not taller than 3.00 m., entirely dressed in red, facing each other, in such a way that I always saw them in profile, they never turned towards us. The strange thing was the morphology of these figures, the one on my right slightly taller than the other, the thorax was longer than their lower extremities, which were short, the upper extremities were proportional to the thorax giving the slight impression that they were sitting even when they were standing. The head was proportional to the thorax, but the occipital was slightly elongated. They were wearing some kind of scuba gear as I could not make out their features. The hands seemed to end in arrowheads, so they appeared to be gloved. The uniform they wore seemed stiff, bright red with no wrinkles.

Startled, I asked the taxi driver if he saw what I was seeing in front of the car, but without saying what it was. The cab driver replied that he had been seeing a big ball for a while, thinking at first that it was one of those “satellites” they talk about on TV. Then he exclaimed: But now, my God, what is that? Shall we stop and get closer? No, I answered, go on, go on to the house.

⁵ Vicente-Juan Ballester Olmos and Ricardo Campo. “Navy Missile Tests and the Canary Islands UFOs,” *International UFO Reporter*, Volume 29, Number 4, 2995, pp. 3-9 and 26. Original Spanish version at https://www.academia.edu/16027101/Identificados_Los_OVNIS_de_Canarias_fueron_misiles_Poseidon

⁶ A total of five such episodes were observed from the Canary Islands in the 1970s. To the two indicated, the most spectacular, must be added those of November 22, 1974, November 19, 1976, and March 24, 1977.

⁷ Mando Operativo Aéreo. Ejército del Aire español. File #760622, July 1994.

https://bibliotecavirtual.defensa.gob.es/BVMDefensa/exp_ovni/es/consulta/indice_campo.do?campo=idtitulo

We arrived at the sick woman's house, which was very close, then I observed that from a semi-transparent central tube of the sphere a kind of bluish smoke was coming out, which was spreading around the periphery of the interior of the sphere without escaping from it at any time. Then the sphere began to grow and grow until it became as large as a twenty-story house, but the platform and crew remained the same size. It rose slowly, majestically, and I thought I heard a faint hissing sound. I went into the house, and I met the old lady while I was in a state of tremendous excitement. I could stand it no longer, I told the villagers in the house, and going outside with me, we saw the sphere, already high, moving slowly towards Tenerife. Suddenly it reached a dizzying speed such as I had never seen in any airplane, deforming the sphere into something fuzzy, bluish and red behind, forming a bright white halo near the object that was gradually forming another very bright blue one. It disappeared in the direction of Tenerife.

The testimony of the cab driver who took him to visit his patient is similar to that of the doctor, but much shorter and with less descriptive detail. In the back of the vehicle, they were accompanied by one of the patient's sons, who, significantly, claimed to have seen only a glow. It has sometimes been argued that the roof of the vehicle would have prevented him from comfortably seeing the celestial spectacle. But this excuse ceases to be plausible from the moment the doctor assured that the sphere was a few meters from the ground. How could he not see an alleged luminous object of thirty meters in diameter that was a few meters away from the cabin and a few meters from the ground? The only explanation is that the phenomenon was not in the immediate vicinity of the vehicle: as we already know, the light show took place hundreds of kilometers west of the Canary Islands. It was this scenario that caused major disparities in the countless eyewitness accounts.



The only known image of the phenomenon observed from the Canary Islands on June 22, 1976. The two diametrical luminous bands are reflections in the camera mechanism. (V. J. Ballester Olmos Archives)

The event of June 22, 1976 is a magnificent example of how our perceptive, interpretative, and memory capacities work in the face of a surprising and unusual phenomenon.

The phenomenon was not local, it was not limited to the area of Las Rosas, in Gáldar. It was seen by the whole archipelago and by some ships, including the Spanish Navy frigate *Atrevida*, located south of the island of Fuerteventura. In fact, there were hundreds of witnesses in all the islands,

and the local press widely reported the spectacle. Are there any clues in the press to think that some of the characteristics of the phenomenon were those that led the repeatedly quoted witnesses to take them for two reddish beings inside a transparent sphere? Indeed, there are. It must be remembered that there was only one phenomenon: all the witnesses saw the same thing and the differences between the numerous accounts are due to the duration and the changing appearance of the celestial spectacle. The role of sunlight was decisive, since, although at ground level it was already night, at tens of kilometers high the by-products of the combustion of the Poseidon missiles reflected the sunlight, just like every time similar phenomena had occurred. In the local Canary Islands press we can read these testimonies, among many others:

On the 23rd, *Diario de Avisos* published that from Los Llanos de Aridane (La Palma) and from Valle Gran Rey (La Gomera), 220 km and 160 km respectively from Las Rosas (Gran Canaria), people saw that:

The phenomenon began with two red zigzagging objects, forming a kind of spiral, in the lower part of which there were three stripes at different levels, superimposed and with some separation between them. They were of an intense red color and gradually disappeared.

The same newspaper, on the 24th, referred to:

A gigantic mushroom that gave off an unusual luminosity was seen to appear in the sea, and, before that, two halo-shaped figures of a reddish hue moved in a zigzag pattern.

From these descriptions, it seems evident that the phenomenon showed, at some point in its evolution, reddish reflections or spots that could have acquired, by chance, an anthropomorphic appearance. It was the first part of the wake of two missiles—launched one minute apart—as they ascended. And it was from this thread that, unintentionally, the doctor and the cab driver created their account.

The doctor influenced the cab driver's statement because of their previous friendly relationship and the social and cultural difference that existed between them. Let's analyze his statements before the ufologists entered the scene; that is to say, his first words to the press and those appearing in the official file declassified by the Air Force, obtained a few days and a couple of weeks after the events, respectively. Knowing that the phenomenon was caused by the launching of two missiles and that its characteristics were similar to other cases in different parts of the planet, we can make the following interpretation of the doctor's statements.

According to the physician F. J. Padrón:

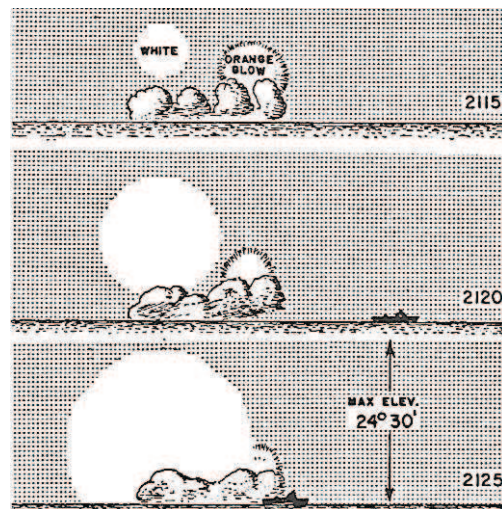
We were talking normally and when we passed a curve, about sixty meters away, we were totally surprised to see a perfectly marked sphere, as if it were a compass, with a very nice gray or sky-blue border.

His estimate of the distance was extremely subjective. Without knowing where the phenomenon was or its nature, the perspective, and the low apparent height at which it was located, led him to consider that it was above the terrain through which they were traveling, a few tens of meters away.

Through the sphere they could see the stars, so it was transparent, which suggests a gaseous nature. This was a real detail and confirmed by other witnesses. The low density of the gases, already greatly expanded, allowed the stars to be visible through it. There are spectacular international images of ballistic launches in advanced phases in which this transparency is evident.

It was about three stories high. At the top, on the right, there was an oval-shaped image. At the bottom was a silver platform with three panels—they looked like knobs—leaning forward.

Once again, we encounter a very inaccurate commentary, attributable to confusion and ignorance. The “platform” and the “panels” were probably denser and less translucent areas due to the presence of gas “clumps” that were created and dissolved during the slow evolution of the phenomenon. It is worth mentioning an account used by William R. Corliss in his compilation of cases of large luminous bubbles perched on the sea horizon, some of them produced by the launching of weapons tests: “Bright, luminous patches on the horizon”.⁸ One of the examples cited by Corliss is our case, which he describes as follows: “At 21:15 a ghostly white disc was observed at an approximate altitude of 10° and bearing 290°.” The testimony originally comes from an account published in *Marine Observer* magazine by R. Moore.⁹ The important detail here is that “stars could be seen through the disc at all times.” Nothing material but as transparent as a cloud. See below the illustration published in the marine journal.



Of the five events observed from the Canary Islands as a result of missile launches, at least three of them, June 22, 1976, November 19, 1976, and March 5, 1979, acquired at some point in their evolution a geometrical configuration, not in their entirety, but in sectors of the expanding gases. This is what must have led some witnesses to refer to quadrangular configurations. The witnesses of these artificial phenomena were thinking in terms of “spaceships,” perhaps of the “lunar module” type.

As for the beings, Padrón León indicated that:

⁸ William R. Corliss. “Bright, Luminous Patches on the Horizon.” In *Lightning, Auroras, Nocturnal Lights and Related Luminous Phenomena*. Glen Arm, Maryland: The Sourcebook Project, 1982, pp. 35-39.

⁹ R. Moore. “Unidentified Phenomenon,” *Marine Observer*, 47:66, 1977.

They were two very tall figures dressed in bright red. They had no fingers on their limbs, but like a spiky fin-like thing. The one on the right was taller. Both were standing in profile. I can tell you that they were moving their hands and on their heads they had a kind of scuba diver's mask. Honestly, I was struck by their great majesty, the perfection of the curved lines. There was nothing pointed, it was something superior to anything I had ever seen.

The two figures were the “reddish-colored objects” observed from other islands. Their probable anthropomorphic appearance during an undetermined time interval was sufficient for the physician to interpret these stimuli—products of the high-altitude missile wake and reflected sunlight—as best he could. Thus, some portions or sections with varying densities and prominent—or attenuated—luminosities became mobile “fingerless limbs” and heads with diving masks. Added to this was the subjective impression of majesty and the absence of very sharp or pointed angles, as one would expect in gaseous matter evolving in free space.

The doctor's description continues as follows:

The contraption then began to rise towards the top of an existing house there. A transparent tube was then seen through which a bluish gas came out and circulated around the sphere, which enlarged like a gigantic building.

In other later versions, physician Padrón León indicated that the sphere expanded while its contents remained unchanged in its proportions. For analyst Martin Kottmeyer, consulted by V. J. Ballester Olmos, this detail points to the fact that Padrón's account was probably influenced by science fiction related to the distant future: there is a general aesthetic tendency in science fiction that science will eventually develop beyond the age of metals and machines, towards force fields without material instrumentation. Light and crystal are part of this aesthetic. Things become ethereal and move away from materiality.

In the doctor's perception, the artificial sphere left over from the ballistic launches was interpreted as a bubble of force and energy. Its interior contained a propitious and protective atmosphere, and it moved without propellants or other conceivable impulse mechanisms. The apparent elevation can be seen as an interpretation of the growth of the great bubble after appearing to hover over the horizon. The transparent tube and bluish gas are interpretations of the motion of the combustion gases, much like the phenomena we can observe in these stills from spectacular footage, on December 22, 2017, of a Falcon 9¹⁰ booster rocket putting a satellite into orbit. In these video images, if we stop its movement at the right moments, we can perceive some curious shapes inside it, like a kind of small boat:

¹⁰ “Falcon 9 rocket launch provides spectacular view in Bakersfield.” YouTube, https://youtu.be/JRzZl_nq6fk



Minute 3:20: a small ship resulting from the solar illumination and the random dynamics of the gases and fuel emitted by the rocket (Image borrowed from https://youtu.be/JRzZl_nq6fk)

Or this one, which resembles a funnel:



Minute 3:43: a cosmic funnel to collect terrestrial specimens? No, a shape created at random by the rocket's progress in clearing stages. (Image borrowed from https://youtu.be/JRzZl_nq6fk)

As is well known, we tend to endow stimuli with meaning based on prior knowledge and experience, on expectations, or on more-or-less well-founded beliefs; and pareidolia¹¹ occurs frequently. In general, these perceptual illusions are part of the normal functioning of the cognitive system.

In the mind of Dr. Padrón León, a “projective transformation” would have occurred, a concept that French researcher Gilles Fernandez picks up in one of his ufological analyses:¹² the witness sees elements in accordance with his own “expectations” and alters the characteristics of the stimulus during the perception. These information-processing strategies are called, in cognitive psychology,

¹¹ Pareidolia: <https://en.wikipedia.org/wiki/Pareidolia>

¹² Gilles Fernandez. “Space Re-Entry Stimulus as CE-3 Generator: The Example of a December 12 1987 case.” *Sceptiques vs les Soucoupes Volantes*, 12 January 2015. <https://skepticsversustheflyingsaucers.blogspot.com/2015/01/01/space-re-entry-stimulus-as-ce-3.html>. Before Gilles Fernandez, the Italian Paolo Toselli and the Spaniards Ballester Olmos and Fernández had already taken these psychological factors into account in their theorizations on “UFO cognition.” For example, V.J. Ballester Olmos and J. A. Fernández Peris, “El síndrome de transgresión de la realidad.” In *Enciclopedia de los encuentros cercanos con OVNIS*. Barcelona, Spain: Plaza y Janés Editores, 1987, pp. 367-371.
https://www.academia.edu/41625252/ENCICLOPEDIA_DE_LOS_ENCUENTROS_CERCANOS_CON_OVNIS

top-down versus bottom-up processing, or concept-based versus data-based processing. Our knowledge and culture influence both what we perceive in the environment and how we retrieve and recall the event (through memory processes).

In general, top-down processes are information processes based on prior knowledge or schemas and allow us to make inferences: to “perceive” or “know” more than what is contained in the data. In other words, we often go “beyond the given information” in our mental processes. We learn to add assumptions and complementary information derived from experience to the evidence of our senses, and this is how we make sense of our world. When a stimulus is not recognized and identified for what it really is, because it is novel or is contemplated in particular circumstances, cognition is governed primarily by top-down processing and is processed by inferences using our prior knowledge, which includes representations from the dominant culture. This may provide some individuals with a grid for interpreting things they do not recognize. In other words, the evidence suggests that UFO stories are a complex phenomenon that combines modern mythology about outer space, popular culture, and human psychology.

Barcelona analyst Manuel Borraz was the first to undertake a rigorous analysis of this event in a 1992 essay.¹³ There Borraz asks: “Why did what for some was no more than a circle containing two red shapes constitute for the doctor a true theophany with technological overtones?” “It is possible to think,” he continues, “that when the witness perceived a highly perfect ship with two beings on board, all of them emanating a great spirituality, some of his most intimate desires and expectations were fulfilled, perhaps his thirst for transcendence.” Padrón León referred, in his numerous statements to the press, to the psychological and spiritual effects that the sighting triggered in him.

March 5, 1979, Canary Islands

Even more relevant than the previous event, due to its media repercussion, was the phenomenon observed from all over the Canary archipelago, from several vessels and from more than fifteen airships on the aforementioned day. It is often mentioned in accounts published in the international literature without citing the obvious explanation, just like with the previous event. In 2019 I published an extensive monograph on this incident.¹⁴ The official file declassified by the Spanish Air Force in 1995 contains this general description of the phenomenon:¹⁵

The first part of the phenomenon observed that evening is defined by witnesses as a large iridescent cloud of great size.

The event had a second part at about 20:08, when a silvery object emerged from the horizon, leaving a red trail behind it. Its movement is described by some witnesses as a spiral, like that of a corkscrew, ascending slightly. When the object reaches the iridescent cloud, it begins to ascend almost vertically.

¹³ Manuel Borraz Aymerich. *Los gigantes de Gáldar y los avistamientos canarios*. Monografía 1 CdU, 1992. Accesible with an introduction by Ricardo Campo (2020) at:

https://www.academia.edu/43047669/Los_gigantes_de_%20G%C3%A1ldar_y_los_avistamientos_canarios

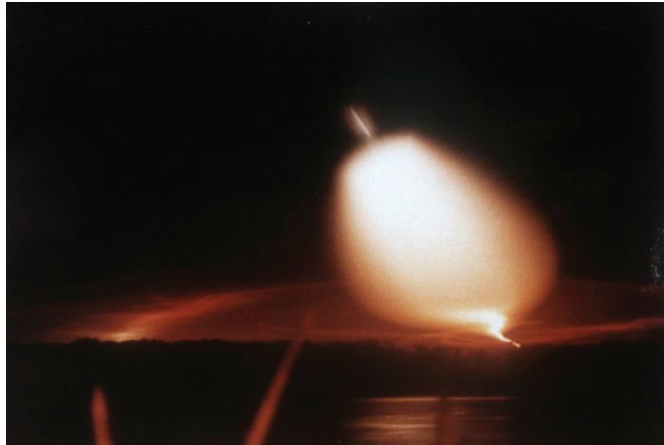
¹⁴ Ricardo Campo. *El ovni de Canarias. Historia y análisis de una creación periodística*. 2.0 Books. Ediciones Idea, Santa Cruz de Tenerife, 2019.

¹⁵ Mando Operativo Aéreo. Ejército del Aire Español. File #790305, October 1995.

https://bibliotecavirtual.defensa.gob.es/BVMDefensa/exp_ovni/es/consulta/indice_campo.do?campo=idtitulo

During this ascent, a series of small explosions occurs, creating an enormous luminous trail in the shape of a rounded cone (other witnesses describe it as a wine glass), which gradually widens and at the apex of which the object is always found. This gigantic wake is the one that illuminates the islands after sunset and that is observed from Africa and frightens many observers.

In a last small explosion, the object acquires more power and speed and detaches itself from the wake it was dragging behind it. At this moment, the object changes its trajectory, flying horizontally for a few seconds, changes its course again in a parabolic trajectory, and at a dizzying speed is lost in the sky, hiding from the observers' sight.



The best-known image of the many captured the evening of March 5, 1979, from various points of the Canary Islands. This one was obtained by amateur photographer Guillermo Lijtmaer from Santiago del Teide, Tenerife. (V. J. Ballester Olmos Archives)

As usual, the press published a large number of testimonies; but, as time went by, the most popular ones were those furthest from reality. The following ones are worth mentioning.

Gilberto Naranjo, Izaña, Tenerife:

From the center of those dashed lines of gases a "full moon," maybe with slightly smaller dimensions, a "full moon" of a very nice silver color, no noise of any kind, and in about 25 or 30 seconds it comes out from the horizon and is completely lost in the sky. That leaves behind a huge wake and the phenomenon lasts until almost eleven o'clock at night, leaving behind a platform consuming an impressive amount of energy. We went out and saw a large silver object, which left a pear-shaped trail and a bluish-green and red tail, with no apparent noise. In the middle we could see a planet or a big star, it could be Venus (later I was sure it was Jupiter); it was getting huge, very wide and pear-shaped, and the object was in front, until it disappeared, I think at about 90° of altitude (overhead).

An anonymous cook also in Izaña, Tenerife:

Then I started to peel the potatoes and at about 8:00 p.m. I saw from where the cloud had been, a patch of fire rising and it became like a pear or a balloon, inflating a lot. Then something like a small plane came out of the pear but very straight up and I didn't see anything else. I got scared thinking it was the end of the world or an atomic bomb.

Eufronio García, aeronautical pilot of the company Naysa, was flying over Gran Canaria:

At 20:08 we saw a big light, first reddish-orange, then in the second phase we saw a kind of cone rotating on itself with green and apple-yellow colors. Finally, the object left behind it a large trail of bluish and green hues. The trail was about four hundred meters wide and remained for about twenty minutes. Then it was lost in infinity, merging with a star. From the front it looked like pure gray. When it was about 4 kilometers away we could see windows with white light at the top. When it started its ascent, we could see 24 round shapes about 250 meters in diameter. We did not see any exhaust that could release any kind of propulsion.

For García Monforte, the luminous body:

came out of the sea in front of Teide and made a 90° turn and at about 60,000 feet [18.3 km] it made an elliptical turn to the north. It was about 250 meters in diameter. It emitted no flashes and at the top there were windows with white fluorescent-type light, and when it started the ascent there were sparks from the friction of the leading edge with the atmosphere until 60,000 feet when the sparks disappeared and it accelerated.

The first time a critical investigator referred to the eyewitness report of “windows” in a sighting of various night-time light sources was in the aforementioned U.S. Air Force Condon Committee report. One of the members of the University of Colorado UFO Project and co-author of the final report was noted astronomer William K. Hartmann,¹⁶ who proposed the expression “airship effect” to refer to the vision of a flying body created by the mind of the witness from the observation of a row of independent luminous points.

The answers given by pilot García Monforte show the high degree of subjectivity with which he interpreted the phenomenon. It is likely that the situation in which he found himself—in command of a small aircraft carrying six passengers—increased his emotional tension and reduced his objectivity, causing him to be more concerned about the safety of the flight than about calmly and attentively observing the appearance of the phenomenon. His interpretation was based on a skewed understanding of his experience, compounded not only by his original perception but also by all the interactions he subsequently had with interested parties, ufologists, and journalists that may have influenced his recollection.

Photographer Antonio González Llopis, who was in Mogán, Gran Canaria, said:

The object brought appendages together like legs or gates that closed nozzles to leave in an almost vertical direction without emitting any kind of light energy.

The Air Force file contains the testimony of the skipper of a fishing boat that was fishing about 16 km off the African coast, who saw:

Two luminous objects, the one that appeared more to the north ascended in an apparent northern direction, disappearing afterwards, while the luminous object that appeared more to the south continued ascending in an apparent southern direction. Subsequently, it changed direction towards the north and towards the fishing boat itself, reaching a point directly overhead, disappearing after remaining apparently motionless in the air for a few moments. At no time did it pass the position

¹⁶ William K. Hartmann. “Process of Perception, Conception, and Reporting.” In *Final Report of the Scientific Study of Unidentified Flying Objects*. Edited by Daniel S. Gillmor. New York: E. P. Dutton & Co. in association with Colorado Associated University Press, 1969, pp. 567-590.

of the fishing vessel in an easterly direction. It would have been about 20 meters long and would have been flying at an altitude of about 2,000 meters.

The accounts generated by the March 5, 1979, event are not in a class of their own in world ufology. They are examples similar to many others from different parts of the planet and the product of the perception of a real, surprising and terrifying phenomenon.

Conclusions

The launches of military missiles and rocket boosters for the purpose of putting satellites into orbit form a complex explanatory category in skeptical ufology. In this regard, the Canary Islands cases mentioned above, from 1974 to 1979, are archetypal examples. Not surprisingly, American engineer James Oberg, who worked for more than twenty years for NASA's Space Shuttle project, while cultivating his interest in accounts of UFO sightings, has devoted numerous studies to the celestial manifestations caused by these military and civil aeronautical engineering tests (<https://rocketspotting.blogspot.com>), among which are the examples analyzed in this article. In one of his essays, profusely illustrated, Oberg offered some general characteristics of such terrestrial sightings that can be applied precisely to the events we have just seen:

- Witnesses are caught by surprise.
- Estimating size and distance becomes a “guessing game” for the witness.
- Sightings can occur at dawn as well as at dusk. The most favorable conditions for such observations are those at twilight, when the rocket trajectory is in the sunlit region and the observer is in an area still under night conditions.
- They take place at altitudes of hundreds of kilometers, which makes it possible to observe them from great distances simultaneously.
- The initial vertical movement leaves a trail that is not fully illuminated by sunlight.
- Witnesses assume that the spindle-shaped or spherical cloud is self-luminous and was not reflecting sunlight. The initial trail of the booster rocket can be interpreted as a searchlight beam.
- Space rocket launches can be observed from a significant distance, thousands of kilometers away, even from other continents. The main optical mechanism for this kind of “UFO” sighting involves the scattering of sunlight in the gas dust cloud formed by the by-products of rocket fuel.
- Advanced stages of launches, in the upper atmosphere, can produce complex visual patterns.
- Depending on the altitude of the rocket flight, engine design, and propellant composition, the configuration of a gas dust cloud and its size can vary widely. In some cases, the characteristic cross-sectional size of the rocket trace can reach many hundreds of kilometers.
- A fundamental challenge in ufology is to assess how accurately human testimony about these apparitions can be related to the actual characteristics of the visual stimulus.
- On the positive side, missile launches at twilight hours offer an opportunity for researchers to gauge the true capacity of subjective perceptions. This may uncover the most typical comments and the most common perceptions and interpretations by witnesses. Thereafter, researchers will be able to assess these narratives more objectively and less naively.

When it comes to witnesses in so-called “UFO” sightings, we often find people who have been interviewed on numerous occasions since the events occurred—some of them by the present author—

with the result that the memories they have stored in their brains may be shaped by contradictory versions of the observed phenomenon, by the tendency of each witness to seek more or less “natural” rational explanations, and by their own assumed relevance as witnesses of anomalous events for the group of journalists specialized in the field of “mystery.”

Let us conclude by indicating, as Italian psychologist Giuliana Mazzoni points out, that the testimony of an event depends on the knowledge one possesses of the world and of things, which, in turn, influence one’s way of perceiving and encoding an object, a situation, or an event, and then on the way of representing them in long-term memory.¹⁷ When no meaningful interpretation is possible, it is almost impossible to remember an event. The interpretation of what is witnessed is a mechanism that is activated automatically, even if we are not aware of what is happening and not aware that, in one way or another, we are interpreting. This interpretation of events plays a primordial role in the “modification” of the contents integrated in the memory. Consequently, even the content of the memory and its subsequent recounting, at the moment the memory is retrieved, will be modified with respect to the original event. What remains in the memory is not the object seen, but the object interpreted. Anyone interested in ufology should keep this in mind.

(Translated by Chris Aubeck).

¹⁷ Giuliana Mazzoni. *¿Se puede creer a un testigo? El testimonio y las trampas de la memoria*. Madrid: Editorial Trotta, 2010. Spanish version of: Giuliana Mazzoni. *Si può credere a un testimone? La testimonianza e le trappole della memoria*. Bologna: Società editrice Il Mulino, 2003.

Some Considerations About the Behavior and Reliability of UAP Eyewitnesses

L. A. L. da Silva

Abstract: We briefly discuss some basic aspects concerning the behavior and reliability of unidentified aerial phenomena eyewitnesses strongly affecting the quality and evidential weight of their reports. Among them are expressiveness, degree of technical knowledge, honesty, and pre-existing conceptions we refer to as "ufophilia" and a more severe form of it that we could name "ufopathy." External influences like the cascade and media lensing effects are also considered.

Keywords: UAPs, Eyewitnesses, Reliability

Introduction

Scientific investigations about unidentified aerial phenomena (thereafter UAPs) observations, close encounters with supposed extraterrestrial beings, as well as alleged abduction episodes conducted by aliens are always like criminal detective work. The investigator rarely participates in the occurrence, usually arriving after the fact.

In this paper we briefly discuss some basic aspects concerning the behavior and reliability of unidentified aerial phenomena eyewitnesses that strongly affect the quality and evidential weight of their reports, based on experiences of field investigations.

Problem Proposition

When carrying out an investigation of an occurrence of a possible ufological nature, eyewitness reports always represent an important piece of evidence in the puzzle of elucidating what would have happened, in addition of elements such as images, video records, physical evidence, and positive radar contacts.

However, the big question is that what an eyewitness reports is always a mixture of what he or she saw with what he or she thinks he or she saw, and separating those two things is never an easy task. Strictly speaking, it may even be impossible.

This represents a considerable obstacle to the investigation, especially when there are no additional eyewitness reports, or independent corroborating evidence such as that cited above.

What a witness thinks he or she has seen will depend on many factors, being strongly influenced by the way people tend to construct their culture and knowledge.

No witness, even one who is entirely honest, is totally trustworthy. Witnesses often build false memories, misinterpret what they see, and establish non-existent relationships between details of what they experienced, in addition to, quite often, not having the ability to describe exactly what they observed, and what supposedly would have happened. Therefore, an occurrence based exclusively on the testimony of a single witness will always have very low evidential weight, regardless of the witness's credentials. An occurrence where more than one witness is available will be of greater value. Even so, in the absence of other more objective evidence (such as

images, video records, radar echoes, and physical traces) an occurrence with only multiple witnesses will still not be of a great value.

Types of Witnesses

It is possible to distinguish different types of witnesses, namely:

- Perfect Witness:

One who is totally honest, objective and precise in descriptions, completely impartial, highly educated, highly qualified from a technical point of view, and without biases that could contribute to a distortion of what is reported. A perfect witness is unaffected by emotions, remaining calm and accurate. There are no perfect witnesses.

- Ideal Witness:

Represents the maximum attainable threshold below perfect witness status. One who is honest and objective, reasonably accurate in descriptions, impartial, highly educated, and technically qualified, without any biases that could distort or influence the report.

- Trusted Witness:

One who seems honest and impartial. May or may not be well-educated or technically qualified.

- Biased Witness:

Sounds honest. May or may not be objective, have a high level of education, or be technically qualified. However, he or she presents signs of ufophilia/ufopathy (see next section). Even with proven honesty, their reports result of low reliability, because they are severely undermined by pre-existing personal conceptions and opinions (lack of impartiality).

- Unsuitable Witness:

Not necessarily honest, impartial, and/or objective. May or may not be highly educated or technically qualified.

Main Factors Affecting the Quality of Witness Reports

Honesty aside, we can list the following factors that may affect or influence the testimony of witnesses of UAP events: low level of technical qualification, difficulty of expression and inability to describe exactly what was observed or witnessed, "Ufophilia", "Ufopathy", the Cascade effect, and the Media Lensing effect. Surely, this list is not complete.

- Technical Qualifications:

This factor strongly influences the evidential weight of a witness report. Without consistent minimal knowledge in the fields of physics, astronomy, meteorology and engineering, it is very difficult to extract accurate and technically reliable information from the account of a witness.

The vast majority of cases of unidentified aerial phenomena sightings involve witnesses with few technical qualifications. This greatly hinders the investigation, but the patient work of an investigator with considerable expertise in the areas of knowledge mentioned above can contribute, in part, to the retrieval of more or less reliable information, whether applying their own technical knowledge to judge and evaluate the details reported by the witness, or by conducting additional interviews where the investigator, seeking to question the witness, will be able to extract a more precise idea of what would have happened.

In cases where the witness is technically qualified, the investigation is facilitated, but it should be noted that even so, the investigator should seek to build his or her own interpretation of the

report and also, if available, use other impersonal evidence to bring your study to a good conclusion.

- Difficulty of expression and inability of adequate description:

It is also observed that most witnesses who report experiences of sightings or close encounters with UAPs do not have the full capacity to express themselves properly, using inappropriate words to narrate what they observed.

Some typical examples of this are described by da Silva, Kemper and Hoffmann Netto (2021)¹, where a witness describes his visual observation of the optical ablation of a bolide fragmenting through the atmosphere as "four spheres of light moving at low altitude." The word "sphere" is certainly not a convenient one to describe a bright meteor. And, on the other hand, what exactly does "low altitude" mean: low flight level, or small angular elevation above the horizon line?

Another witness, simply looking at planet Jupiter near the horizon over the sea, again uses the expression "sphere of light", and estimates that the "object" was "about 200 meters high" and "about one or two kilometers away."

It is also common to associate brightness variations caused by the presence of variable cloudiness, with real movements of unidentified objects towards and away from the observer. Time intervals are also often underestimated, or overestimated.

This occurs even in cases involving technically qualified witnesses, as in the case of experienced commercial pilot Gérson Maciel de Britto, the main protagonist of one of the most famous Brazilian UAP cases, the incident of the VASP-169 flight (see, e.g., da Silva, 2013)². When the planet Venus, deformed by the effect of a rare atmospheric mirage, was mistaken for a UFO, the phenomenon was reported as "a flying saucer outline embedded in a flurry of light activity, not a star. It looked like a fixed thing, a fixed outline with a luminous focus". This inadequate description gave rise to completely unrealistic simulated images released by the media at the time, contributing to the consolidation of a highly distorted view of what had actually been observed. See Figures 1 and 2.



Figure 1. An example of an unrealistic illustration. The VASP-169 flight UAP incident on February 8, 1982, in Brazil, released by the media and available on the Internet. Here we have a large luminous object flying in front of the aircraft (approximately at the 12 o'clock position).

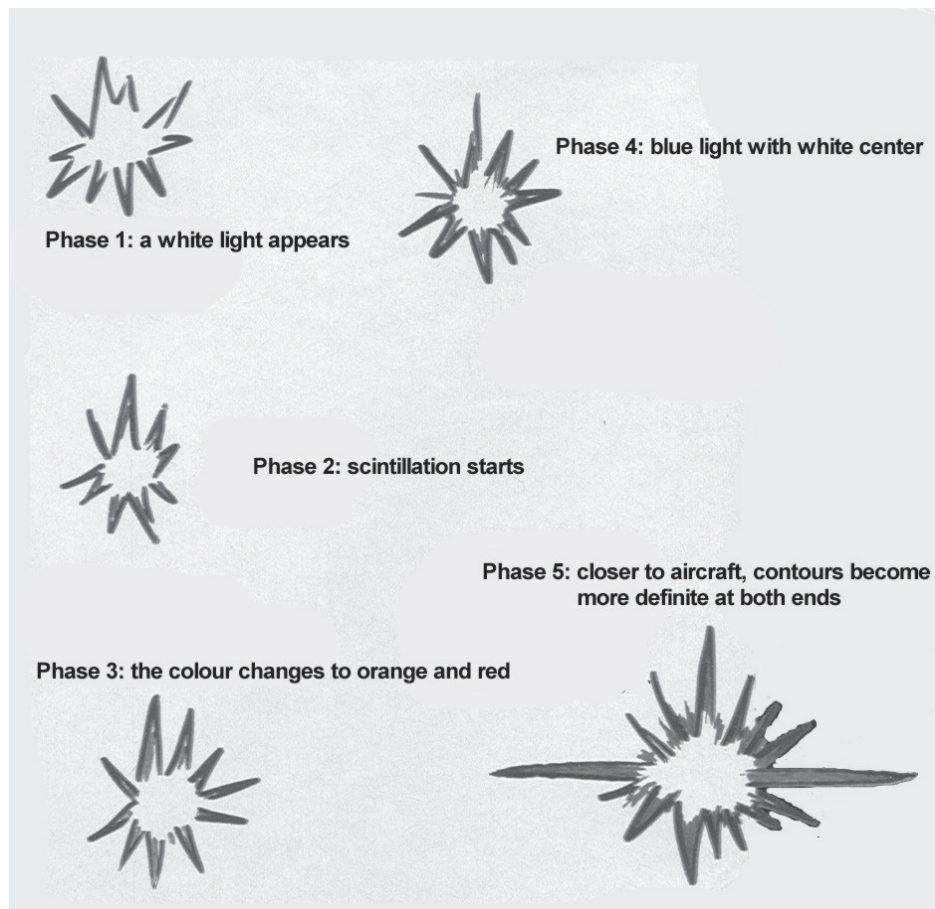


Figure 2. What Commander Gérson Maciel de Britto actually saw in the Brazilian VASP-169 flight incident on February 8, 1982, flying north to south, in drawings in his own handwriting. The "object" was seen at the 9 o'clock position. Image adapted from *VEJA Magazine*, (702), 50.

Witnesses with a high degree of academic knowledge, for example, professors, researchers and scientists, even in the field of exact sciences, often also make mistakes. A notable example of this is the famous classic case of the "Lubbock lights", Texas, in August and September of 1951, in which, perhaps because they were deeply influenced by the frequent news about UAP in wide circulation in the media at the time, the witnesses (all professors) confused flocks of migratory birds flying at night with flying saucers.

Although not always, reports from the military can be even more disappointing, as can be seen, for example, in one of the official reports released by the Brazilian Air Force (FAB)³ on the famous campaign to track unknown luminous phenomena, which took place in 1977 in northern Brazil known as the "Operação Prato" (Operation Saucer).

Examining that report, one finds absurd phrases and assessments, such as "passage of a luminous body, probably an artificial satellite, estimated altitude 35,000 feet." Artificial satellites at 35,000 feet?! In addition, several members of the team, especially the commander, captain Uyrangê Hollanda, showed obvious signs of sympathy for flying saucers (see below).

- "Ufophilia":

We use this word to designate a person's predisposition to believe (and like to believe) in flying saucers, interpreted as real spaceships manned by intelligent beings who regularly visit our planet.

When evaluating the credibility of a witness's report of unidentified aerial phenomena sightings, an investigator should be aware of the possibility that that person shows signs of being a flying saucer sympathizer.

Ufophilia does not depend on the witness's culture, knowledge, education level or technical qualifications. A sufficient demonstration of this is found, again, in the Brazilian case of the VASP-169 flight, when Commander Britto reported to the press his attempt to "establish telepathic contact with the object's crew" who was accompanying him, without, however, being successful. Such a declaration constitutes an evident proof of ufophilia.

In another famous case also involving a commercial pilot, namely, the case of JAL-1628 cargo flight over Alaska on November 17, 1986, Commander Kenju Terauchi also demonstrates, in his attitudes and statements, evidence of ufophilia.

- "Ufopathy":

We define ufopathy as a behavior of proven ufophilia taken to extremes, assuming the character of an almost pathological syndrome. Individuals who believe they are "chosen" for having been "contacted" or "abducted," as well as those who believe that extraterrestrials are powerful creatures who wish to intervene and help humanity, thus configuring a kind of modern mystic or religious sect imbued with scientific and technological characteristics, are ufopaths.

The possibility of ufopathy must also always be taken into account when evaluating a witness. Ufopathy as well as ufophilia wipe out the impartiality of a witness, practically nullifying the value of their testimony.

- The Cascade Effect:

By Cascade effect we mean the influence that a case of an unidentified aerial phenomena sighting with great media attention exerts, inducing reports of other similar occurrences, sometimes triggering a wave of sightings, because the people involved in those events, alerted by the news, on the one hand start to remember strange facts they had recently experienced and, on the other, they start to pay more attention to phenomena that, under normal circumstances, in the absence of news about strange things, would go unnoticed.

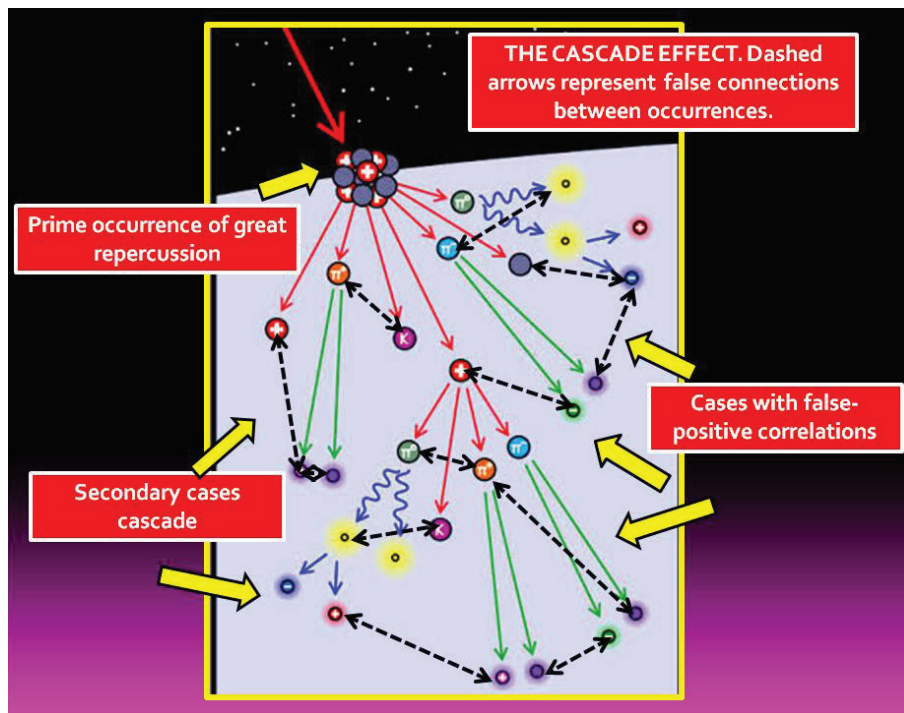


Figure 3. The dynamics of the cascade effect, in an analogy with cosmic rays penetrating the atmosphere.
Image: © Telescope Array, 2011. Adapted from reference 1.

In situations like these, it is quite common for false-positive links to be established between two or more occurrences. A typical example here is the association of the "UFO" in the case of flight VASP-169 flight referred to above with the visual and photographic record of a ring-shaped mesospheric cloud, seen during the night in the city of Torres, southern Brazil, two days before the flight incident (da Silva, 2013)².

The cascade effect, encouraged mainly by the media and, today also by social networks, can strongly influence the opinion of witnesses, contributing to the introduction of distortions in their testimonies.

- The Media Lensing Effect:

This effect acts mainly (but not only) in waves and mini-waves of unidentified aerial phenomena sightings. Media coverage of those events is often biased, imprecise and poorly conducted, distorting or ignoring relevant facts and details, favoring or even inducing false conclusions, shaping the thinking and opinion of the witnesses involved. A previous event, reported in an exaggerated way, can influence the behavior and testimony of witnesses involved in other later cases.

Conclusion

We have pointed out some important fundamental aspects that influence the behavior of witnesses to sightings of unidentified aerial phenomena, affecting the degree of reliability of their statements. Personal trends and the direct influence of the media are elements that cannot be ignored when giving weight to reports from witnesses involved in cases of UAP sightings. There

is no case where only the testimony of one or even more than one witness is able to reliably establish what actually happened.

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(All online links accessed July 9, 2022).

UFO Myth Propagation before the Arrival of Social Networks¹

Marcel Delaval

Abstract: This paper attempts to show, through typical testimonies, how the actors in the UFO mythology –the witnesses, the ufologists and the media– contribute to propagating and feeding their myth, even once the original phenomenon has been identified. It also suggests new areas of research in the context of the Internet and social networks.

Keywords: UFO, IFO, ETH, MIB, Varese, Viggiù, Roswell, Crosia, Blue dwarfs, Fake story, Misinterpretation, Myth propagation, Testimony, Witness, Internet, Social network

Introduction

It is important to remember that *ufology* is first and foremost the study of *testimonies* of specific phenomena, and that hundreds and thousands of testimonies of *similar* phenomena are not necessarily proof of the phenomena's existence or objective reality. Several statistical UFO (Unidentified Flying Objects) studies have shown that the vast majority of UFO cases can be explained by known phenomena, have received traditional explanations, or can be discarded for lack of information. However, UFO literature and experience in the field show that most witnesses, even if mistaken, act in good faith,

In our own statistical studies [1,2] on UFO *waves* in France and Italy in 1977, we tried to differentiate between IFO (Identified Flying Objects) and UFO cases, but without success. Several years later, in a reductionist approach, we reviewed our UFO category, arriving at the conclusion that only a few cases were worthy of interest [3]. However, this approach risks missing a real signal (rare events) in the background noise.

The following four accounts are representative of how the main actors – witnesses, ufologists, and the media – propagate UFO mythology; all four, however were reported before the appearance of the Internet in the early/mid 1990s.

The Role of the Witnesses

A UFO witness, when presented with proof of their misinterpretation of a known phenomenon, can still deny this new evidence, and so contribute to the diffusion of the UFO myth: the myth here being the reductive extraterrestrial hypothesis (ETH) so often present, implicitly or explicitly, in the background of these testimonies. In the following story the main witness himself is the first person responsible for propagating the account of his experience.

It's July 1985 in the North of Italy, near the city of Varese. The summer warmth invites people to stay outside late into the evening. The witness's house is far enough from the city to provide a good view of the sky. For several weeks during the evenings and early mornings, from their balcony J. B., his wife, their daughter, and some neighbors have observed a brilliant light in the east or southeast. They also saw moving lights with *strange* trajectories.

¹ First published as "The Force of a Myth" in Hilary Evans and Dennis Stacy, eds., *UFOs 1947-1997. Fifty Years of Flying Saucers*, London: J. Brown, May 1997. The original paper has been updated and enlarged.

J.B., an engineer with three diplomas, is considered to be our primary witness, in the sense that he led the initiative to report their sightings. Intrigued by his observations, J.B. decided to contact the local newspaper, *La Prealpina*, to declare:

Each evening for almost three weeks, I have seen a luminous object through the window exhibiting a strange behavior. I am an engineer; I know the laws of physics and mathematics; I exclude the possibility that it could be a satellite. I would like somebody to explain to me what it is. As a scientist, I don't believe in the existence of other worlds, in fact I never mentioned the word UFO in this entire story. On the basis of my knowledge, I cannot explain the nature of the object and I would like some competent person to give me an explanation. It is the only reason why I am here.²

After reading this newspaper account, I made an appointment with the family and went to their house that same evening. J.B. seemed proud to show me astronomical books open on the table, as if he wanted to demonstrate that he knew something about the subject. As the observations had happened over several weeks, it was quite difficult to reconstitute the events precisely. Fortunately, during my visit, his daughter called to say that the object was again visible, as on the previous evenings. A brilliant object was visible in the southeast, which was quickly identified as the planet Jupiter, and confirmed using binoculars. Disappointed by this rational explanation, J.B. argued that it could not explain their early morning observations.

Back home, a brief assessment of Venus's position at that time of year showed that the planet was visible early in the morning, in the same approximate direction. As the witnesses had seen only one object at a time, based upon their description of the luminous phenomenon, identifying it as Venus was relatively easy. Informed of this, J.B. tried to save the situation by highlighting the unusual motion of the lights they had seen in previous weeks.

Even if no sure explanation could be given for these lights, we had already experienced *strange* trajectories of lights in this geographical area. They were produced by the lights of the airplanes taking off or landing at the nearby Malpensa airport. The airplanes are flying towards the witnesses, which sometimes looks like they are suspended in midair, while moving quickly at other times. It seems probable that all these observations had been conflated to give the impression of a single phenomenon.

J.B. finally seemed to accept this astronomical explanation, and turned down a visit from RAI (National Italian Television), saying that:

It's not worthwhile for you to come, there's nothing to see for the moment [even if apparently the same phenomenon was still there] and it would cost too much money.

However, interviewed a few days later by the newspaper *La Prealpina*, he continued to state that:

The moving lights were something else.

As a consequence, the mystery continued to be propagated through the media. Even if the ETH was not invoked in this case, extraterrestrial UFOs were still implied by the media.

² *La Prealpina* August 2, 3, 4, and 8, 1985; *Corriere della Sera* August 4 and 6, 1985; CUFOC inquiry Aug. 2, 1985.

J.B.'s behavior can be understood psychologically. He was probably in trouble for the commotion he'd caused for the media, the ufologists, and the astronomers ... especially considering the emphasis on his professional and academic credentials made by both the media and him. By maintaining the mystery, JB was probably trying to save face.

The Role of Ufologists

The UFO myth is also propagated by ufologists. In the following story, a member of the family, the witness's father, was the first to share the information, giving rise to a secondary myth.

This case, *the two blue dwarfs of Viggiù*, took place on October 4, 1979, at the edge of a village not far from Varese (where the previous account occurred), in the garden of A.N., a 38-year-old workman employed by a refuse collection company.³

The night was dark and starry. As usual, A.N. was leaving home early to go to work. At 03:15 he went to the garage, took out his Vespa motor-scooter, started the engine, switched on the lights, and drove onto the garden path. Unexpectedly he saw two small blue dwarfs, no taller than 70-90 cm, about 10 m away. They were moving in his direction, floating 20 cm above the ground. They looked human, with two arms and two legs, but were extremely thin. He did not notice their clothes or hair, but was impressed by their luminous eyes, like those of a cat at night. They were gesticulating and seemed to be discussing something, but he could not hear any words.

A.N. left the Vespa with the motor on and its headlight directed at the strange beings and began walking in their direction; suddenly the motor stopped, and the light switched off. Unafraid, he kept walking, intending to capture the dwarfs. He was about to grab the one on his left when it disappeared horizontally towards the nearby lawn. Then he turned to the right to capture the second one, but it too had disappeared. Returning to his Vespa, he was surprised to hear the motor start and see the headlight illuminate the path again, without any intervention by him. The entire observation lasted only a few minutes.

This strange case has never been explained, not necessarily because it is unexplainable but because no psychological or medical study of the witness has been made, nor was there any investigation of the witness's background.

The inclusion of MIB (Men in Black) alongside the UFO elements adds a secondary interesting element to the story. MIBs are those mysterious people who appear in some UFO stories, menacing and intimidating both witnesses and ufologists, supposedly to prevent them from discovering the truth about UFOs. They often wear black clothes and travel in black cars. While investigating this case my colleague and I were publicly described as MIBs by a ufologist.

My colleague is French, and I am Belgian, thus both coming from French-speaking countries. We both worked for the Nuclear Research Center of the CEE in Italy and were personally interested

³ CUFOC inquiry October 6, 1979; CUN inquiry November 18, 1979; *La Prealpina* October 5 and 6, 1979, February 14 and 20, 1980, and June 4, 1980; *Cronaca Vera* November 4-7, 1979; C. Naso, *SKY Sentinel*, No. 4, April 1985; A. Hendry, M. Shipp, P. Rojcewicz, and E. Russo, *MIB: Gli uomini in nero, tra mito e fenomeno*, CISU monograph N°7, September 1989.

in UFO testimonies. All this information is important to what follows.

We first learned about the blue dwarfs through *La Prealpina* newspaper. We telephoned A.N.'s family and arrived in Viggiù on October 6th. We began recording his testimony inside the house and then went out into the garden to measure distances and angles, and take readings with a compass and Geiger counter. We did not notice any anomalies.

Six years later, C. N., a ufologist with a religious, conspiratorial and contactee agenda, published the following [my own comments are in square brackets]:

One day (December 14th) [in reality December 6th], two men came to Viggiù and, without hesitation, entered the garden. They were dressed in dark clothes [I do not have black clothes] and one of them had a strange apparatus in his hands, pointing it in specific directions and showing a moving needle. The man orientated the apparatus, turned around and, without hesitation, went to the exact place where the dwarfs appeared, during the night of October 4th [of course A.N. had showed us the spot already]. All of this lasted only some minutes. A.N. watched all this from behind a curtain [the Pink Panther in action]. Seeing that the two men did not intend to go away, he left the house [thus the Pink Panther came out of its hiding-place]. One of the men removed an ID card from his pocket and said he was an engineer from the Nuclear Research Center.

Then, speaking in an incomprehensible language [obviously, if you don't understand French], the men inspected in detail the path and the garden where the two visitors had been seen. A.N. attentively observed their behavior and, not understanding the function of the apparatus, asked what it was. "It is a Geiger detector," said the man who presented himself as engineer [I don't like titles], in perfect Italian but with an evident foreign accent. The other man never spoke in Italian [I never realized my colleague's lack of Italian!]. After another five minutes, without saying goodbye [no manners!] both men left. They got into a car hidden outside [it was not parked in the garden, to avoid disturbing anyone], and A.N. watched them leave from behind the bushes [the Pink Panther in action again]. Only then did he notice that their big black car [a white Citroën GS] did not have any license plates [it has a red and white Belgian plate].

The A.N. incident is a rare Italian case of interference by the Men in Black. The Nuclear Research Center absolutely denied the investigation. [I never reported anything about it, and our enquiry was private and not work-related.] Whoever they may be, the intruders [this sounds as if they had been identified] were surely not employed by the Research Center [I am sorry to contradict], which has no interest in UFOs.

It's interesting to note the atmosphere of mystery and conspiracy generated by this description: the black clothes, the strange apparatus, the official nature of the visit, the military behavior in the men's movements, their strange language, the colleague's silence, the big black car hidden outside. It's easy to imagine how this story, or a similar one, could be propagated by others, who don't check their facts first.

The Role of the Media

Some journalists – more concerned with their audience than with the reality of the situation – might distort the truth by changing or omitting information, or refusing to correct mistakes, even when presented with contradictory evidence.

G.M. presents the TV program MIXER on a main Italian channel. On December 16, 1991, he

presented the audience with a photograph of a supposed alien, without saying it was a reconstruction.

There followed a general discussion on UFOs, but not of the photograph he'd shown viewers. Scandalized by this distortion of the facts, the Italian ufology group CISU published a press release on December 17, explaining that the photo was of a dummy made for a Canadian movie reconstruction of the Roswell case. The doll had been exhibited in the *Pavillon du monde insolite* at the Universal Exhibition of Montreal (1981-1984). The doll is lying in a Plexiglas cylinder, dressed in a diving suit. The photo had nothing to do with a 3D reconstruction, and was trimmed so that the diving suit wasn't visible. Apparently, G.M.'s response to their complaint was:

We showed the photo, but we did not say that it was an extraterrestrial.

About a year later, on November 30, 1992, G. M. broadcast exactly the same sequence, despite the correction provided by CISU's press release, so continuing to propagate false information and to feed the myth.

A Convergence of Roles

Sometimes an amplification effect can be produced when events, and the roles of the different actors –the witnesses, ufologists and the media– converge.

On May 30, 1987, a hundred people gathered at Crosia, in the Italian province of Cosenza, to worship at a statue of the Virgin Mary which had been seen crying in a local church a few days earlier. Unexpectedly, but anticipated by some of those assembled, a light appeared in the sky at 10 p.m. It performed a series of strange movements and was immortalized for six minutes on a video camera. The light is called *the star of the Virgin* by witnesses. Initially the event was interpreted as a religious one, then as a ufo one.

The incident took place almost exactly 40 years after Kenneth Arnold's first historic sighting of a UFO, on June 24, 1947. Alluding to similar cases is a typical means of bolstering one's own testimony, as noted by P. Lagrange,⁴ and in this case religious people compared the Crosia incident to the visions of Fatima in Portugal while UFO enthusiasts pointed to Arnold's sighting.

On October 17, 1988, an analysis of the video and a reconstruction of the light's trajectory (*from a moving camera*) were presented by members of the Italian ufology group CUN on Italian Television RAI2. At one moment a clear disc shape with a hole in the middle and notches in its periphery appears on the screen. The first impression that comes to mind is that this is a zooming artifact of the video camera, as suggested by the TV presenter interviewing C.M., CUN's Chemical Engineer, who rejects the explanation. By coincidence, the shape of the object in the video is similar to that of one of the objects described by Kenneth Arnold in 1947, and depicted on the cover of *Fate* magazine in 1948. Of course, this fact was highlighted by CUN; one member of the group, a former civilian pilot, added in an interview for *Corriere 7 Giorni*:

I am sure that this is not a terrestrial object.

⁴ "Enquêtes sur les Soucoupes Volantes," *Terrain*, No. 14–L'incroyable et ses Preuves, Terrain (France), March 14, 1990.

Years later, similar photographs continued to be published by the press.

In November 1990, the Belgian ufology group SOBEPS published an interpretation of the now-famous disc shape. According to them, it resulted from the internal structure of the video camera, which becomes visible when the automatic zoom tries to focus on a small point of light. This phenomenon can be easily reproduced by anybody with a video camera from this period.

In December 1990, M.C., a CUN member refuted the explanation, arguing that in the Crosia video, an additional central hole was visible, unlike in the SOBEPS photograph. The zoom artifact hypothesis was again ignored by CUN member R.P. on their videotape *UFO-Dossier Europa*.

In July 1993 the Italian magazine *FOCUS* published a video of a lamp filmed with the zoom opened to its max position, the central hole is clearly visible and the comparison to the Crosia case is obvious. So, six years after the event, CUN finally agreed with the SOBEPS-Munsch hypothesis. However, this was immediately annulled that November (1993), on the TV program *Studio Aperto* by another member of the same group who presented similar images, and failed to mention the video camera's zoom mechanism.

Even if a luminous phenomenon had been recorded by the video camera, it remains the case that the crowd's observation of a simple point of light was transformed into an important incident by the religious context of the event, the analogy with the Fatima visions, and the coincidence of the anniversary of the Arnold sighting. The lack of criticism and objectivity shown by some ufologists, and the lack of quality control and fact checking by the media, only serve to further propagate the myth.

Conclusions

Leaving aside whether or not the UFO phenomenon is a reality, this paper has shown how the actors in the UFO myth –witnesses, ufologists, and the media– can continue to propagate and feed this myth. We can observe this common scenario: Witnesses, convinced that they have experienced an exceptional phenomenon, wish, in good faith, to communicate their experience to others via ufologists and/or the media. From this moment on, the UFO case acquires a kind of official recognition that can act as a catalyst, attracting other witnesses, ufologists, and media.

Even once a case has been explained as having an ordinary cause, like an astronomical phenomenon, a threshold may already have been reached, beyond which it can become difficult for the actors in the myth to withdraw their statements. Then, the temptation to ignore or distort the facts can be very strong. Other motivations like profit, bad faith, ignorance, or intellectual dishonesty can also motivate the actors. Some UFO magazines, like other publications, are also subject to practical constraints – for example they must collect enough material, publish on time, and sell copies. This may also lead to a distortion or manipulation of reality. UFO cases which have been explained don't tend to interest people and so aren't profitable for the media. This may explain why corrections aren't generally published.

Much energy can be expended in vain, struggling for the truth, correcting mistakes, and asking for corrections to be published. However, the myth will continue to propagate because some of the

actors want it to. Our time and energy is better spent on investigation and research. History has shown that UFOs appear anywhere, at any time, to anyone, and that incidents can quickly be widely reported by the media.

Possible Future Studies

Print media appeared in the late 15th century, cinema in 1900, radio about 1910, television about 1950, the internet about 1990, and mobile phones and the most widely used social networks about 2000.

* In what way did the global expansion of Internet media and associated forums, blogs, and social networks influence the propagation of the UFO/ETH myth, or influence UFO conspiracy theories?

* In what ways has the Internet's rapid expansion influenced close encounters and abduction experiences?

* Are we to expect an increase in UFO testimonies due to these globalized networks or, on the contrary, will more testimonies remain *hidden* within specific online communities?

* Are new characteristics or cultural aspects appearing in current UFO testimonies and, if so, why?

* What were the reactions of people and the UFO communities to the release in June 2021 of a report on unidentified aerial phenomena (UAP) by the US-Pentagon (a *parallel* with the Condon Report in 1968)? Why publish this now?

* Are there any differences between UFO myth propagation before and after the arrival of social networks?

All these questions could form the object of further studies in the current context of the propagation of UFO information and disinformation.

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Witness Reliability: Accuracy - Reliability of Pilots - Personal Honor

Richard F. Haines

Abstract: One of the chief arguments raised by some skeptics is that many UAP/UFO witness accounts simply aren't reliable. Ipso facto, almost all should therefore be ignored. Beginning with an analogy from a NASA space exploration mission, this paper argues that, indeed, no person or inanimate thing can be one hundred percent reliable. Humans differ in many different domains and these individual differences produce reductions in the reliability of their experiential accounts. But this is not to suggest that their accounts are based on purely imaginary events, didn't happen at all, or that they can't be accurate. The question here is how accurate are they? Involvement in serious UAP studies now being conducted through the (U.S.) Office of the Director of National Intelligence has raised this question yet again.¹ If even one UAP sighting can be shown to be "perfectly reliable," isn't that sufficient to settle the issue of their existence?

Keywords: Pilot sighting reporting, NASA Galileo Mission, Reporting honesty

A Comparison with Hardware

NASA's Galileo mission was launched from Kennedy Space Center on October 18, 1989 en route to Jupiter where it finally arrived and was carefully maneuvered into orbit on December 7, 1995, more than seventy-three months later! It had required a gravity assist from Venus along with two more assists using Earth's gravity to finally reach its destination. The relatively small spacecraft carried ten different kinds of sensors including a Solid-State imaging camera. But, unfortunately, on April 11, 1991, when mission control attempted to open its large umbrella-like high-gain data antenna (needed to send back its highly valuable data at rates up to 134,400 bps) it failed to open fully! Staff at the Jet Propulsion Laboratory in Pasadena, California and many other places immediately went to work to find an effective workaround, or the entire mission could be lost.² More than seven hundred people contributed to the mission and to this serious and unanticipated intensive repair activity. I was one of them.

Earlier, spacecraft planners had wisely provided for two additional, smaller, low-gain antennas on board as back-ups, each capable of sending a fainter transmitted signal back to Earth and at a much slower rate of between 8 to 16 bps (so that the data stream could still be clearly understood), i.e., they still wanted sensor and overall system reliability to be as high as possible given all of the expected and unexpected mission-related challenges.³ Because of the very low data rate and the need to send back as much information as possible over this vast distance, various image compression algorithms were evaluated to see if, by carefully removing certain features from each video frame, the modified image would still be "reliable" and acceptable by members of the Solid State Imagery (SSI) team who would study the arriving infrared, visible, and ultraviolet data. (Planners had included the capability of reprogramming the onboard computer to alter its processing and transmission characteristics during the mission.) Galileo managed to send back more than 1,500 images of Jupiter and its moons during its 23-month orbital mission. Further historical data can be found elsewhere.⁴

I found something both interesting and possibly relevant to the subject of this paper associated both with Galileo's space hardware and the SSI team members that my team and I worked with at

Ames Research Center to evaluate the acceptability of various image compression algorithms that might meet the challenging demands of the SSI team.

I believe there may be some valuable lessons to be learned about human reliability in general and alleged UAP witnesses in particular from the Galileo project and the very brief overview just given. Several are quite obvious: it goes without saying that just as inanimate, man-made technology isn't always 100% reliable (equipment sometimes fails) so human perception and memory can "fail" regardless of the nature of the stimuli one experiences - whether it be expectedly mundane or highly unusual and unexpected. The literature is replete with such supporting evidence. And while Galileo's hardware had a theoretical reliability factor (based on extensive pre-testing, calibration, and iterative testing) which was very high indeed, the reliability factor of UAP witnesses cannot be accurately assessed (for many reasons: legal, ethical, moral, biological, psychological, etc.) And, just as Galileo's system failure was unexpected, so most UAP are experienced unexpectedly. While Galileo hardware had been carefully pre-planned to deal with a variety of contingencies, UAP witnesses cannot be. It is unreasonable to expect a multimillion-dollar spacecraft to work perfectly when bombarded by high energy cosmic rays, high acceleration and thermal loads, etc. over long periods of time, so too is expecting a UAP witness to receive, store, and retrieve sensory information perfectly, particularly under highly stressful conditions. This has also been shown by much past research.⁵ Another lesson is less obvious: whereas scientific sensors can be calibrated and tested for performance over long periods of time under all kinds of environmental conditions and statistics generated on their reliability, similar statistics can be generated for humans under only the most general circumstances. Human sensory reception, information input and output (from stored memory), and overt behavior of humans can change relatively quickly, variably, and without any clear-cut cause. These so-called individual differences contribute to the unreliability of eyewitness testimony. Literature published in the field of "experimental psychology" is constantly contributing to our understanding in such matters. But what about the members of the SSI team and their requirements in our study?

At that time, I was leading a small team at Ames to evaluate a possible Galileo imagery work-around that involved comparing various levels of both lossy and lossless image compression; we worked with fifteen members of Galileo's Solid-State Imaging team who came to Ames to be tested using our particular compression algorithms.⁶ Each was an expert in his or her field of astrophysics or astronomy; each brought their own "hidden" (previously unidentified) requirements for what they were looking for in the Galileo imagery, i.e., they didn't (or couldn't) express all of the criteria they were looking for in the images they viewed although most agreed that contrast, resolution, and field of view were important (even though they could not actively control many of them). It became clear that some members required lossless image compression (which would require extremely long transmission times back to Earth for each full frame), while others said they could accept lossy compression imagery (where each full frame is transmitted much faster). These requirements represented their several scientific biases imposed on the data in order to carry out their own studies. In the same way, UAP witnesses bring their own kinds of personal biases with them before, during, and even after their sightings. UAP field investigators need to identify these biases far more carefully than they have to date.

And, although UAP witnesses don't expect to experience what they see in advance, these SSI team members had the added benefit of pre-planning what they examined and what criteria they would

apply to their assessment(s) of image scientific usefulness (i.e., they might have to compromise some of their desired image quality features because there was only a single data channel available back to Earth and it had to be shared by many users of the same data set). And so, the reliability of their data was importantly influenced by one's ability, willingness, and capability to pre-plan for some set of outcomes (e.g., a particular surface or atmospheric detail at Jupiter). Again, as everyone knows, UAP witnesses have no such opportunity and may be pre-conditioned by prior exposures to Hollywood productions, popular press images of UAP, etc.^{7,8}

Accuracy

Now two issues before us here are whether or not UAP witnesses both can and will provide an accurate description of what they experienced, i.e., whether their testimony is actually reliable? If they *can* (their senses and cognition are functioning normally), *will* they carefully and accurately report the details of what they saw? Relatively little research has been done so far on either issue. The author has carried out research somewhat tangential to (but overlapping with) this question. I attempted to find out if drawings of UAP made by people who claimed to have seen a UAP differed from those who claim they had never seen one.⁹ Of course, today almost every adult in the Western world has seen various graphic representations of what culture tells us they look like. In my study, I simply asked whether drawings of what was seen by alleged UAP witnesses and drawings of what non-UAP witnesses thought they looked like might be useful in discriminating between these two groups of people. What I discovered may have touched upon one aspect of eyewitness reliability.

As I wrote in 1977 "...does the exposure to a 'real' UFO evidence itself differently in hand drawings than does the exposure to 'pictorial, synthetic, or otherwise artificial' representations of a UFO?" While the many details of this study will not be repeated here, it is interesting to note that alleged UAP witnesses were more reluctant to draw certain details of the UAP (viz., domes, round openings, apertures, and details around the object's circumference, leg-like structure, markings, symbols and/or insignias, etc.). I suggested back then that a person's exposure to a "real" unidentified aerial phenomenon acts to somehow constrain the number of details one draws as well as to not draw obviously ridiculous shaped objects. In most other aspects the drawings of "craft" by both groups did not differ very much! I doubt that the reluctance to include these details came from their fear of ridicule, because they had already identified themselves as UAP witnesses! Could it have come from a motivation to simply draw what they had seen and the UAP simply didn't have such details? Of course, without back-up corroboration, it is impossible to know. Perhaps similarly, there was no back-up antenna available to send back the needed corroborating information from Jupiter.

In another study,⁹ I attempted to quantify how accurately people could reproduce irregularly shaped totally unfamiliar images presented to them for 1, 4 and 8 seconds; to each of two groups. The fifteen participants in each group were asked to fill out a short questionnaire which (later) showed that both groups were almost the same in: their frequency of reading articles about UAP and/or paranormal phenomena; estimated frequency in looking up into the sky to try to see a UAP; belief in a supernatural power, being, energy source; as well as age, sex, and handedness.

Group 1 was shown these test shapes first and simply asked to redraw them as accurately as they could. Then (within several more minutes) they watched a 35mm (illustrated) slide lecture on UAP

given by the director of the Space Science Center at Foothill College in Los Altos Hills, California. Group 2 was shown the same slide-lecture as above (also 21 minutes long) first and then shown the test shapes which they had to reproduce as accurately as they could. Careful measurements of all of the drawings of the irregularly shaped images were then made. It was found that Group 1 tended to draw larger images than did Group 2 (difference wasn't statistically significant). In a follow-on study, another set of familiar, symmetrical (geometric) shaped images was presented to the same observers employing the same experimental design as above; the same results were found when they were presented a small white square as well as a small white circle flashed upon a black background, a set of white vertical parallel bars, and a white capital letter T lying on its side (all presented for only 0.2 second). Why should the fact of having seen and listened to a lecture on UAP that included numerous photographs of alleged UAP have caused these participants to draw smaller drawings when all of the other testing conditions were the same in both groups? Is this finding perhaps related to the study presented previously where a prior (alleged) UAP sighting acts to constrain the number and variety of details drawn? Studies such as these may help uncover some of the bases for the acknowledged unreliability of some UAP witnesses. Clearly, such studies do not need large expenditures of time or money.

On the Reliability of Pilots

A few comments are in order about the reliability of airplane pilots who report seeing UAP while in flight (sometimes with corroborating radar or other electromagnetic contact).^{10,11} Few would question their credibility or motivation for reporting these phenomena in the first place, given the still-ongoing cultural stigma and negative biases shown against aviation professionals for doing so.¹² Nevertheless, skeptics have tried to debunk such sightings in various ways. One is to argue that simply because pilots are humans and humans can be fooled by various illusory conditions, ipso facto, pilots must be seeing an illusion of some kind. I won't comment on Sheaffer's^{13,14} views on this subject other than to say I do agree with him that reliability is not a clear-cut matter by any means. Serious research is needed to make this boundary clearer. I also agree with Buckout's statement that "...even highly trained people become poorer observers under stress."¹⁵ Yet "poorer" is a relative term and would seem to paint all such observers with the same brush. So, what about pilots and visual illusions?

As Harris¹⁶ has pointed out, "The term visual illusion represents an unfortunate choice of vocabulary (because it) seems to incite an air of magic... or to hallucinate elaborate imagery which has no physical basis in reality. The vast majority of false perceptions are not magical in nature. They are logical interpretations by the observer of what he actually saw. They are explainable and predictable on the basis of sound engineering concepts." I agree with Harris as long as the pilot has limited his or her report only to a strict description of what he or she saw without adding other interpretive comments about what they believe the phenomenon might be. I disagree, however, with his assertion that the application of "sound engineering concepts" will quickly or easily identify the source of the alleged illusion. I know of many pilot sighting reports of UAP that skeptics and others have called illusory but which, after extensive study, cannot in any way qualify as such. And so, in regard to illusions in particular, the reliability of a majority of pilot reports of UAP remain very high in my opinion.

What about multiple (pilot) witnesses in the cockpit? Given the various Cockpit Resource Management procedures being carried out (by mandate) in a majority of world airlines today, the

cockpit has become far more democratic. The junior flight officer (and all other flight crew including cabin attendants) is encouraged and empowered to challenge the pilot flying about anything that may impact flight safety. Of course, this includes reporting (or not) reporting UAP. When there are two eyewitnesses of the sighting event in the cockpit, each must fill out an “after-event” incident report. Onboard flight voice recorders are also analyzed to further document auditory aspects of the sighting event. These changes to aviation procedures will continue to improve the reliability of pilot reports of UAP.

As to making a UAP report in the first place, professional pilots particularly, are highly trained, motivated toward responding safely and appropriately under stressful and sometimes ambiguous conditions. They understand the often demeaning and career-limiting consequences of making a UAP report to authorities on the ground and also possess various onboard electromagnetic sensing equipment which might respond to energetic aspects of the UAP.^{12,17} In this regard a particularly interesting account of a close aerial encounter clearly involving a strong magnetic field is presented elsewhere.¹⁸ Numerous other aviation sightings in America have been documented as well.^{1,10} Having worked personally with the senior airline pilot in this particular case, I can attest to his extremely high reliability, truthfulness, and accuracy. In my experience, he is typical of airline flight crew despite what many skeptics might want to suggest otherwise.

Also, regarding pilots and visual illusions, once again, I would be among the first to agree that pilots can be fooled into misidentifying an unidentified light or physical object in flight, particularly at night.¹⁹ However, because of their previous flying experience, viewing vantage point(s) of the unknown object or phenomenon over time, capability to radio others for confirmation and identification (e.g., ground radar and air traffic control, flight schedulers), and a strong subjective bias against making any report at all (for reasons already mentioned) such UAP reports, if actually made, should be accorded a relatively high reliability. It is easy for skeptics to make their challenging assertions from the comfort and safety of their armchairs and sometimes without having an understanding of what actually takes place in the airplane cockpit in flight at night, in severe weather with air turbulence and reduced visibility, and sometimes with poor or no radio communication at all with the ground and under stressful conditions. In my opinion, pilot reports of UAP deserve not only more careful scrutiny by UAP investigators and government aviation officials, but also much higher acceptance and respect than they have received in the past.²⁰

Personal Honor (Telling the Truth) and Real-Life Conditions

Honesty is a part of witness reliability. I agree with Koi who has pointed out, “...in relation to many UFO reports, the honesty of the witness is not usually a key factor.”²¹ In the case of commercial and military pilots, their motivation is not only to maintain safety but also to keep their jobs and not jeopardize them by radioing a UAP sighting along with giving relevant technical data to help others on the ground and in the air nearby to obtain supporting information. They know that flight safety is paramount and that “honesty is the best policy.” And, in the case of modern military jet interceptors, particularly those that have onboard sensors of many kinds that register “unknowns,” the pilot is safer being honest (by reporting the UAP) because if he doesn’t, he will have to explain later why. Finally, asserting that, on a purely statistical basis, one occupational group such as pilots is or is not as likely as another group to mistake a UAP as being some other kind of phenomenon merely demonstrates one’s lack of understanding of the variability of human behavior under real-life conditions. Again, let us consider commercial pilots as an

occupational group where their selection involves a great many components that would tend to make their sighting reports far more reliable, rather than less. Consider the extensive procedures that are involved: prior (military or private) flying experiences that are gained under a wide range of environmental and visual conditions; their educational requirements and achievements; written application and training results; carefully focused simulator “type” training and periodic recurrent training carried out under a variety of real-life, high-stress conditions; number of years flying; safety record; etc. All of them contribute to reducing the chance of misidentifying a prosaic phenomenon as a UAP (almost always the very last category a pilot will reluctantly seek out in identifying an unknown). While, statistically speaking, occupational category is not a reliable co-variable to use, still there are many individual well-documented UAP reports made by pilots that have been shown to be of extremely high informational value.

Arguments also have been made that because eyewitness testimonies in courtrooms are notoriously divergent and inconsistent so the same must be true for UAP sighting reports made by flight crew members. Of course, inconsistency of any testimony blurs the boundary between truth and untruth. But this false (or at least misleading) analogy assumes that legal research-related proceedings employed in validating the testimony of an attorney’s eyewitness is similar or even the same as those employed in aircraft incident and accident reports. They may be similar but only in superficial ways! While attorneys for each side of a court case seek any and all evidence to support their own client(s)’ testimony, they are motivated primarily to win the case at any and all costs. Of course, this includes the testimony of so-called expert witnesses who may be brought in. Yet, investigating incident and accident aviation reports (e.g., UAP sighting reports) by civil aviation authorities such as the National Transportation Safety Board in America or their counterparts in other nations involves a different objective than winning at all costs. The proximate cause of the incident (e.g., the physical characteristics of the UAP that causes a report to be made) or accident is the primary issue. Identifying all likely related (secondary) contributors to the event is also done deliberately.

In the case of aviation incidents (e.g., near-miss with a UAP)¹⁰ and accident analyses, they are almost always so widely publicized and influenced by political and economic considerations that eyewitness testimony, if there is any, is largely accompanied by “hard” technical and engineering facts including airborne and ground sensor data related to the phenomenon. In short, pilot sighting reports of UAP would seem to be of quite a different nature than are civil and criminal cases in a court of law.

Conclusion

What is the ultimate end of achieving perfectly reliable UAP witness data? Isn’t it to provide scientists, engineers, and technologists with the kind of data they need to answer these questions: “does something anomalous actually exist?” and also “if there is such data available does it show any signs of intelligent control?” To me, these are the key questions that drive our desire for highly reliable data on UAP. Sci-fi writers and others don’t require that these data are even moderately reliable. They can and do fill in the unknown frustrating gaps with their own machinations of mind. But UAP are so important that they can’t be left to the imagination of creative minds. They deserve the assembled intellect and wisdom of all of the contributors to this volume, along with everyone else who honestly wants to know the truth.

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Memories Are not Documentaries: The Weakest Link in the Chain of UFO Evidence

Jochen Ickinger

The question is not whether a memory is false, but how false it is.

Dr. Julia Shaw

Abstract: Eyewitness reports of observations of UFOs are still the central argument in all discussions of a possible anomalous background to unexplained UFO sightings. Researchers often assign a very high level of relevance and reliability to statements from obviously credible eyewitnesses talking about their personal experiences. As a result, conclusions are drawn from their descriptions that are regarded as information on objective processes and properties of the observed phenomena and objects. This happens without taking into account the subjectivity of witness statements.

The following paper focuses on the susceptibility to error of witness statements and highlights the diverse physiological and, above all, psychological influences on the entire memory process which consists of perception, memory and recall. Perception and memory, which are largely based on the respective knowledge and experience, and thus its individuality and temporality, are emphasized. In addition, the way a witness interview is conducted also holds a potential for error with regard to the information obtained. The cognitive interview is then described as a tool for obtaining good-quality memories. Nevertheless, it is extremely problematic, if not impossible, to draw scientific conclusions about the UFO phenomenon from findings obtained purely by testimony. They require objectively verifiable data.

Keywords: Perception, Memory, Recall, Misinformation, Accuracy of testimonies, Eyewitness interviews, UFO investigation

Introduction

In anomalistics, the UFO phenomenon is primarily classed as an extraordinary human experience, i.e., a (predominantly) subjectively experienced and conveyed experience.¹ While the modern UFO phenomenon is also characterized by a huge number of photos and videos, especially since the advent of digital photography, these have come under strong criticism in terms of credibility and authenticity. They often show conventional objects and are based on optical effects or do not allow exact conclusions because they lack detail or are of poor quality. This is why eyewitness testimony and its assessment is still the central element in all discussions about the origins of the phenomenon.

This can also be seen, for example, in the officially verified photos and videos of the US Navy, which have been hotly debated in UFO circles since 2017. According to some researchers, they show extraordinary vehicles of non-terrestrial origin. However, these images are also subject to criticism because there are possible conventional stimuli which call into question unusual claims.² In the current discussion representatives of exotic hypotheses are increasingly referring to the statements of US Navy pilots and military personnel – so, again, personal accounts have to serve as evidence of the non-terrestrial origin of these flying objects. An example of this is the

Scientific Coalition of UAP Studies' (SCU) analysis of the Nimitz Tic Tac video.³ According to its own statements, it is impossible to derive object data such as size or distance from the footage, and assumptions and estimates based on eyewitness accounts were taken as the basis for the objective calculation of unusual behavior. Here, as in various other reports, proponents emphasize the assumed high quality and credibility of the testimony of the witnesses involved (pilots and other military-technical personnel).⁴

In the state-of-the-art evaluation of eyewitness reports, the focus is not on the general credibility of the person but on the credibility of the testimony in question, its accuracy, and reliability. This must be evaluated independently of the reputation or the general credibility of a person, which can only hint at a credible testimony.⁵ In addition, many factors can encourage false testimonies, be it a deliberate lie, an error, or suggestion. Since fallacy is more widespread than conscious lying (which also applies to eyewitness accounts of UFO sightings), this paper will present relevant influences on all three stages of the memory process (perception, memory, recall) that affect memory capacity and can cause errors, and its implications for UFO case investigations.⁶

Influences on Perception

Perception can be defined as a process by which sensory stimuli from the environment are received, organized, and interpreted. This identification process is often referred to as chain of perception. However, the representation of perception as a step-by-step, linear sequence of stages is increasingly regarded unlikely today since the actual perception process is far more complex. Rather, perception is increasingly seen as the result of several interactive processes. A model describes it as a bottom-up process with the transmission of stimuli and their organization (generating patterns and encoding) on the one hand; and on the other hand, as a top-down process in which interpretation and identification of the organized stimuli take place (see Fig. 1). The latter may essentially be called “an educated guess.” The

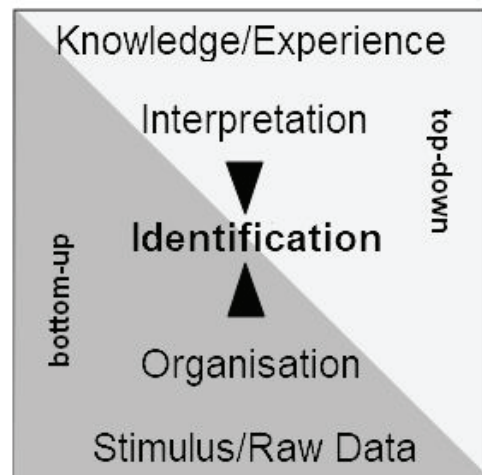


Figure 1: Perception process (based on Bak 2020)

interrelationship between bottom-up and top-down processes ultimately leads to perception in the sense of recognition (identification and meaning).⁷ This presumes that we have assumptions about the world and the objects in it. Without such assumptions, there can be no cognition in the sense of identifying and giving meaning. If the necessary presence of knowledge, experience, and expectation is decisive for the perception process, it is clear that the result of conscious perception is not an objective image of reality, but always an individual and subjective one. It is influenced by external and internal parameters.⁸

In perception, the following parameters that influence the perception of event information can be identified (see Fig. 2 below):

1. *Physical and sensory conditions.* These include the external conditions under which the perception takes place, such as spatial and temporal conditions (visual conditions, observer

position, movement situation), e.g., whether the observation takes place outdoors, through a window, with auxiliary means, in motion, or in a stationary position. These points are usually the subject of an additional survey or questionnaire, and they are collected and taken into account for further assessment. A common factor is the age of the witness. For example, advancing age leads to physiological changes in perceptual abilities (this already tends to be noted from the age of 40 years). Examples are the decreasing depth of field in the eye, restrictions in peripheral perception, and changes in color perception or night vision problems.⁹

2. *Social and psychological conditions*, which include perception differences based on expectation and experience. Shape and pattern perception is also determined by this factor. Of particular interest here are descriptions of flying objects in the dark. Object shapes are often described by an interpretation of the visual distribution of individual lights. Typical examples are “flying triangles,” which are interpreted based only on the arrangement of lights. Several lights are regarded as belonging to the same object, whose form they define. This is a completely normal process that is defined by the “laws of gestalt.”¹⁰ The brain forms a shape from the lights perceived – yet this does not have to correspond to the true shape or the true object. As soon as the brain recognizes a definite form of the flying object it is also perceives and describes it in this imagined form.

It has been mentioned that the knowledge and experiences at the time of the event are an essential part of its perception and will differ from observer to observer. Personal ideas and convictions also play their role. Of particular interest is the so-called priming effect, whereby one’s expectations or even previous experiences can influence the perception in a very special way (it is therefore also referred to as the expectation effect).^{11,12} In the case of extraordinary human experiences, this effect must not be underestimated. Most people hold a set of certain expectations and beliefs regarding the phenomena, or may already have made strange observations. The possible impact of this effect was illustrated in a TV documentary on the myth of Bigfoot – witnesses believed they had observed a Bigfoot and described such an animal, but traces and material found on the encounter site were identified as those of ordinary animals. The documentary also discussed gestalt perception in this context.¹³ Researchers attempt to assess to what extent such beliefs or experiences are present in observers by trying to find out about their previous interest in UFOs. One problem here is the fact that such images have for long already become part of pop culture; even children are exposed to many motifs of the subject of UFOs and aliens. So, everybody will ultimately have his ideas about this topic.

3. *Allocation and focus of attention*. Was the observation deliberate or rather random and on the periphery? Was the witness able to devote his full attention to the event and how long did the observation last? Or was the witness busy with something else? As a spontaneous phenomenon the witness generally encounters UFOs unprepared and only by chance (unless they especially go to a place to make observations, such as happens in the case of the Hessdalen lights). The witness has only a little time to interpret something in the sky as an unknown phenomenon, and then to focus on its observation. Reported UFO observations with a very short duration, or incidental ones, are often difficult to assess unless there are specific indications. American astronomer Allan Hendry, who once was a UFO researcher, suggested the category “insufficient observation” for such cases, as a sub-category of “exceptions,” observations that for various reasons cannot be sensibly assessed.¹⁴

4. *The personal situation* (emotional situation) in which the witness is at the time of the observation. Was he or she relaxed, stressed, excited or angry, tired or wide awake, or did the event itself lead to particular emotional states in the witness? Such personal emotional states can make it difficult to record the entire event accurately and above all objectively and soberly. This is an often-neglected or underappreciated point which is hardly ever considered in questionnaires on sightings and is only rarely asked if the witness does not spontaneously speak of his or her own situation. This is of particular interest for night sightings – did the witness come from a party, from a club, or was he or she on the way to or from work, etc.

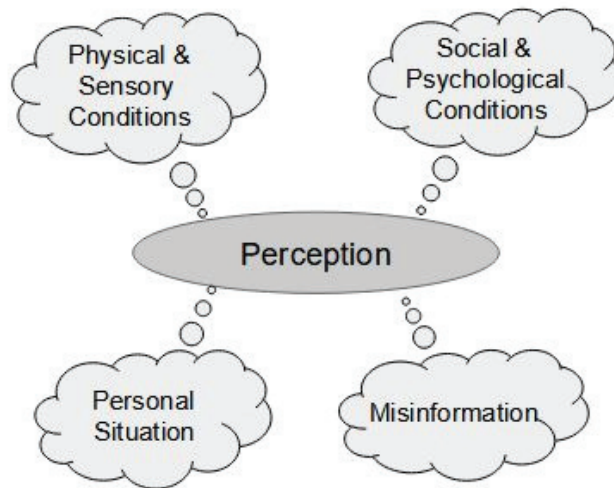


Figure 2: Influences on perception (by author)

Experiments have shown that, in addition to interest and attention, a certain amount of arousal is necessary for good perception. If it is at an optimal level, it offers a good basis. However, if the level of arousal is too weak or too strong, it leads to a significant deterioration in perception skills (model of the inverted U-curve according to the Yerkes-Dodson law [see Fig. 3]).¹⁵

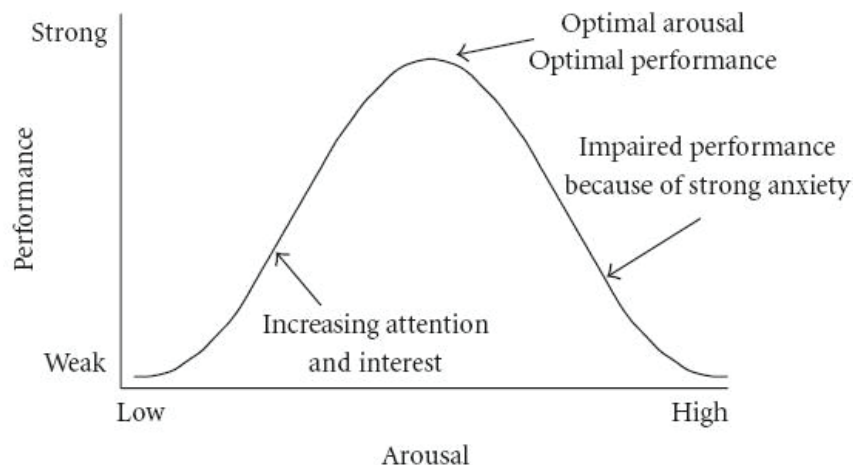


Figure 3: Hebbian version of the Yerkes–Dodson law (Shaw 2016)

This means, for example, that if an observational experience that is unusual for the witness leads to very strong emotional excitement or a stressful situation, these emotions increasingly impair perceptual performance. The effect of stress on eyewitness recall is widely underrated in its effects. Studies have consistently shown that stress has a dramatically negative impact on the accuracy of eyewitness memory, a phenomenon that witnesses themselves often do not take into account.¹⁶ Particularly when a threat is being felt (sensation of fear), the focus of perception narrows and concentrates on the perceived threat. Peripheral details and contextual information become unclear or will be badly perceived.^{15,17} In a UFO observation under high stress, central details of high priority may stand out, while accompanying details of low priority, which can be just as important for an assessment, are not or only inadequately observed. Witnesses often remark on a personal stressful situation on their own initiative or describe their feelings during the observation. As a case investigator, we should take this into account and document it when we make systematic inquiries.

Influence on Memory

Perceptions are not stored unalterably in memory, but they are also subject to influences. The main factor here is time. The more time passes between the event and the interview situation, the greater the risk of changes in the original perception. Such changes can occur within the space of days after the observation. There are two influencing parameters (see Fig. 5 below):

1. *Forgetting*. Forgetting is a normal process to which most memories are subject to a larger or lesser degree. From various studies on forgetting, a so-called forgetting curve has been derived, which, however, is not linear over the years and varies in intensity depending on the type of information absorbed or the event. Thus, autobiographical or important personal events are remembered even after several years, while those with little or no personal significance are subject to high memory loss. This already happens after just hours and continues asymptotically until it begins to level off the following days at a dramatically reduced level of accuracy.¹⁸ As the years go by, the forgetting curve continues to slow down (see Fig. 4). Eyewitness memory is increasingly susceptible to contamination as time passes. When memories fade, they also become more susceptible to suggestion.¹⁹ Childhood memories of an adult should be evaluated particularly carefully.

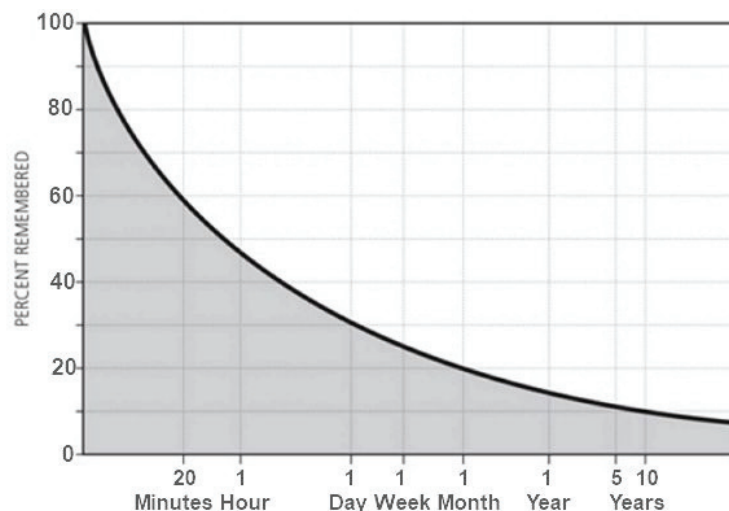


Figure 4: Typical presentation of the forgetting curve (Fluent-Forever/Gabriel Wyner)

At the moment, there is no definitive answer to the question of whether forgotten information is really completely erased or can simply no longer be accessed, for whatever reason. In addition, depending on the situation, there will always be occasions when you will not be able to recall everything that you knew only shortly before or what comes back to your mind later. This situation may happen during a witness interview. The brain will try to fill such gaps in memory by itself on the basis of expectations and stereotypes. The problem is that it cannot be determined in a single interview whether a memory was authentic or only retrospectively inserted by the brain, since it is an unconscious process and the false fill-in is recalled by the witness as a real memory. Only intentional false statements may later be determined on the basis of certain facts.

2. *Suggestive influence* (misinformation). Subsequent information obtained by witnesses after the actual event can distort and alter their memory. This so-called misinformation effect is caused, for example, by conversations and exchanges of ideas with other people or witnesses or by media information.²⁰ The effect must especially be considered in the case of UFO sightings, since phenomena unknown to an observer cannot be calibrated on known objects and the observers may think about their experience, search for possible analogies, and interpret their observation. In a later interview, details may be described that were not originally observed, because they are interpretations or adaptations based on subsequently acquired information. This change in one's memory occurs unconsciously, so that the witnesses believe they are telling the truth. In the case of several interacting witnesses to an event, mutual influence often leads to memory conformity. This means that the memory of a single witness in a group will not only reflect his own memories, but after their exchange, consists of memories of all participating witnesses. In this process, the memory of the individual group members tends to adjust to a common narrative.²¹

Researchers attribute great importance to media influence during waves of UFO sighting. Additional witnesses may interpret their sighting according in the context of the information they read about and then report a sighting (social contagion).²² Media influence on subsequent testimony should not be underestimated. It must also be allowed for in the currently debated observations by US Navy pilots. Their observations have now been reported for four years in various media, and these reports advocate very different views and different interpretations and assumptions. The witnesses compare them with their own perceptions; and in doing so may be influenced. In addition, we have a long period of time that has passed since the Nimitz incident in 2014, and this must also be taken into account. It would be of more use to consult any existing protocols that were made immediately after the events.

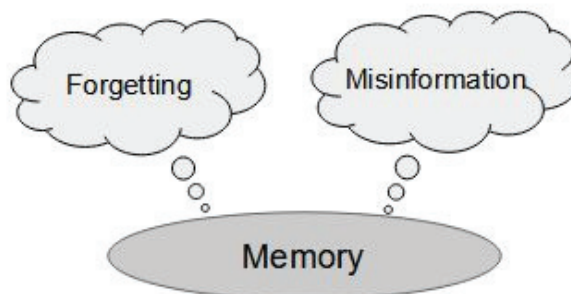


Figure 5: Influences on memory (by author)

A timely interview and exploration of a UFO observation is therefore of crucial importance in order to minimize the influences mentioned and to obtain good-quality statements. Contrarily, increased periods of time between observation and interview must be critically assessed. My own experience from case discussions with fellow researchers shows that this is not always the case. This aspect often only comes into the researcher's mind when we are faced with insufficient data from sightings from long ago, where a meaningful investigation can no longer be carried out. When a long period of time has passed since the event, especially if the witnesses are regarded as reliable, the problem is hardly ever discussed.

All things considered – and remembering that memories can change within days – I would suggest an additional evaluation scale for sighting reports which measures the time that has passed since the event. For the highest quality the interview should take place within a few days after the event, ideally on the same day the event occurred, the second highest quality for interviews within a month and the third highest quality for interviews within a year. Interviews on sightings that happened more than a year ago would receive the lowest quality. I would tend to classify the latter in a distinct sub-category as “exceptions” according to Hendry and not under UFOs in the sense of unidentified.

Influences on Recollection and Reproduction (Interview)

In the interview situation, witnesses are expected to recall and replay their memories of an event correctly and comprehensively. However, there are also influences that can affect the result, the final witness report. For this, again two major parameters can be described (see Fig. 6 below):

1. *Reproduction by the witness*, distortions in the reproduction by levelling (simplifying details), accentuation (emphasizing details, especially when stress is felt) or assimilation (changing and adjusting details).²³ The witness's verbalization and language skills also play a role in the description of the event. It is recommended that the interviewer uses what is known as active listening and pays attention not only to what is said, but also to how it is said. An audio recording of the interview is advisable in order to be able to later understand the situation if necessary.

2. *Suggestive influences by the interviewer*. In the interview situation, suggestive questions or question techniques can also lead to false information. For example, misleading questions can lead to witnesses reporting things that were not there in the first place.²⁴ This is why neutral and open questions must always be used. Even questions about details that are not well remembered because they were not given sufficient attention can lead to misinformation effects. While repeated and frequent interrogation on details may provide additional information, at the same time it will encourage false memory convictions. Witnesses tend to make their own assumptions in order to give an answer if they have no real memory of the detail asked.

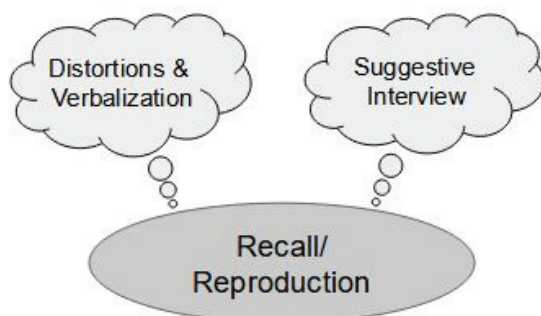


Figure 6: Influences on recall/reproduction (by author)

Measures to Optimize Memory Performance

There are strict limits to a subsequent evaluation of memories, as the event usually lies in the past and measures are therefore limited to the interview situation. Precisely for this reason, the witness interview is the central instrument for gaining information about the event and requires a methodical approach in order to obtain reliable and usable information for the assessment of the case.²⁵ This is a weak point in UFO research because most interviewers are untrained in interview techniques and regard their interview simply as an everyday conversation. A witness interview of inferior quality can hardly be adjusted in retrospect. It may bring into question the entire case assessment.

The cognitive interview is a tried and tested measure for obtaining good-quality memories; studies show that it provides from 25% to 35% more correct memory content than standard interviews.²⁶ This means that the witness mentally re-engages in the observation situation and reports everything that he or she recalls in a free-form report, even if the result appears incoherent and fragmentary. The interviewer stays in the background. The witness should have the opportunity to remember without time pressure and stress. The interviewer should create a relaxed interview situation, not push the witness or ask questions during this phase. Ideally, the interview is carried out personally with the witness and as a local appointment, i.e., at the location of the sighting. In this way, the witness is most likely to put him or herself in the emotional position of the experienced situation, which promotes memory. This is also the best way to observe any reaction of the witness.

Questions can be asked only after the free-form report has been completed. Now suggestive questioning techniques must be avoided. The investigator must keep his own assumptions or interpretations to himself, or he will lead answers in a desired direction. Only open-ended questions are to be used, and the witness is not given any answer options. Information about peripheral details of the event is also problematic, especially with regard to duration estimates. According to studies, there is a tendency to overestimate shorter events of less than 30 minutes (which are typical for UFO observations).²⁷

Only after this exploratory first phase, the subsequent, detailed interview as well as the filling in of the usual questionnaire for case studies should be made. The partially given options in a questionnaire may influence the answers, as they are then tailored to the questions. The use of the free-form report and later of a detailed interview or questionnaire will result in a redundancy of information. This can be compared, and contradictions noted, if necessary. A free-form report is particularly important because of the resulting dynamics.

What Significance Can We Assign to Drawings?

Typically, in data collection on UFO sightings, witnesses are asked to make a drawing of the observed object. Because they give a visual impression of what was seen, drawings add to purely verbal or written descriptions. In the final case evaluation and discussion of prosaic causes, significant weight is usually given to drawings, especially when they are compared with possible explanations. If the pros and cons of a stimulus identification as a conventional object are discussed, in addition to the overall shape individual details in a drawing are often used as justification, especially in so-called unexplained cases where a drawing does not correspond to the expected shape of a known object.

This approach, however, does not take into account the already-mentioned influences on perception and memory, which affect reproductions in drawings just as much as in verbal descriptions. The content of memory is not an objective and unchangeable reality, and drawings are not photographic reproductions of what is seen. Experiments by researchers show that drawings by eyewitnesses are also quite individual. In these experiments, test groups were shown an image on a slide which the participants were later asked to draw from memory. A well-known and illustrative example is the series of tests conducted by the German UFO group GEP. Their results, at least in part, do not necessarily point to the stimulus originally shown and the drawings also differ considerably, and it was stated that “verbal descriptions and sketches of objects are only ‘moderate’ in the majority. (...) A third to a maximum of half is ‘usable’” (see Fig. 7).²⁸ A comparable experiment exemplarily carried out by sociologist Edgar Wunder for the German TV station Pro7 confirmed the results: people who are confronted with an ambiguous stimulus for a short time will include details in their drawings which do not really correspond to the stimulus and cannot be assigned to it, even when these drawings are done only a few minutes afterwards.²⁹ The same, naturally, is the case with drawings made years after an event. In addition, drawings by eyewitnesses to sightings that are later identified sometimes show significant deviations from the actual stimulus. Corresponding remarkable cases were documented by the Italian UFO group CISU, for example in mass sightings of a stratospheric balloon and a meteor over Italy (see Fig. 7).^{30,31} These cases also show that with several (independent) witnesses in a case, one and the same object will be depicted in many different ways.

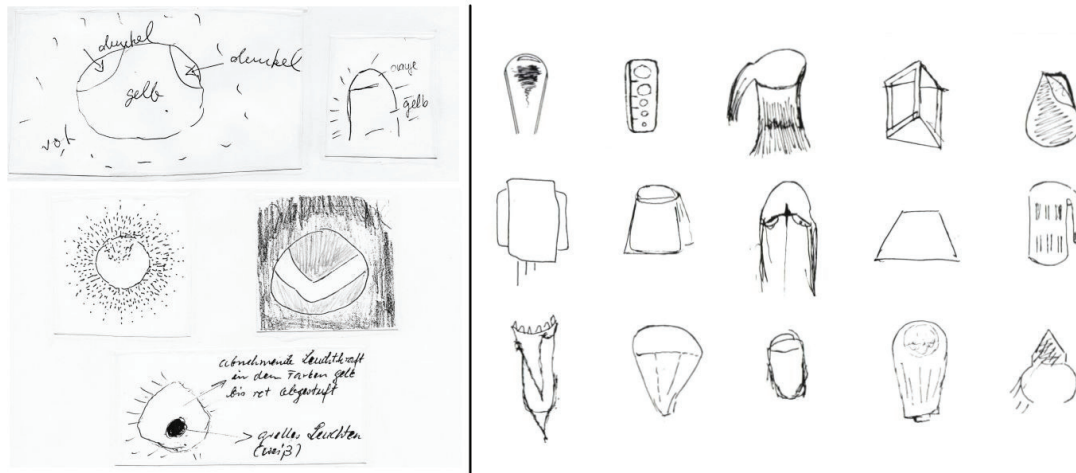


Figure 7: Perception experiment by the GEP (Keul 2009, left); mass sighting of a stratospheric balloon (Grassino 1986, right)

Cases where drawings are given in addition to photos or videos can also be illustrative. I myself took part in case discussions with videos which showed, in one case, only a still light and, in the other case, an airborne airplane in the distance, while the descriptions and drawings had strongly divergent details which were not confirmed on the videos and in one case clearly deviated from an airplane. In both cases, the witnesses were convinced that they had seen something out of the ordinary. Finally, it seems likely that in the case of an unidentified, commonly known, conventional object that is perceived under unclear conditions and appears mysterious to the witness, a drawing is more likely not to correspond to the stimulus, since it would otherwise be

obvious. The more one's own interpretations are incorporated, the more deviations must be expected. Drawings can thus be no more than an indication in the case evaluation and individual details should not be overrated, especially since another witness would probably draw the same object differently. As many UFO observations are made at night, the influence on shape perception should also be taken into account. The perceived shape will often correspond to the arrangement of lights in the sky; this is then reflected in the drawings and, among other factors, plays an important role in most of the sightings of flying triangles.

In general, I see many problems when investigators draw pictures to illustrate eyewitness accounts, even if done in close co-operation with them, as these are, in essence, the results of an interaction between investigator and witness and cannot be regarded as reproductions free from influence. However, studies show that pictures drawn by witnesses immediately after a sighting and before they talk or discuss it with others, are quite valuable, and enhance memory performance.³² It has also been proven that drawing sketches either before an interview, or independent from it, results in less confabulation than is the case in a guided interview.³³ Therefore, witnesses should be encouraged to draw sketches independent of a later interview and as soon as possible after their sighting. This is true even if photos or videos have been taken.

Is the Certainty of a Witness an Indication of Correctness?

When finally assessing a case, the strong conviction of a credible witness that his memory is reliable is often regarded as a measure of the correctness of his or her memory performance. Yet, studies show that subjective conviction is not related to objective accuracy, as the brain constantly fills in the gaps in any experience with expectations, thoughts and stereotypes. It is therefore misleading to assume that an extremely convinced witness is also a good witness.³⁴ The testimonies of witnesses who believe they can remember everything even after a long time must be viewed with greater skepticism than testimonies of witnesses who admit to memory gaps. Testimonies of witnesses who want to tell the truth and nothing but the truth can be subjectively true and yet objectively false.

The situation is similar when a witness reports objectively about his observation, without his own speculations, interpretations and discernible exaggerations. On the one hand, this speaks for the credibility of the testimony and the authenticity of the reproduced memories, yet on the other hand it cannot rule out the possibility of false perception and the sources of error described.

Conclusion

“Memories are not documentaries,”³⁵ and drawings are not photographs. Giving a testimony about events in the past is an intricate and very error-prone process; and “faultless recall is not the rule but the exception”, as Hamburg psychologist William Stern stated already in 1902.³⁶ Selective perception and individual conditions at the time of the event distort the perceived information and also depend on what we already know and on our experience at that very time. Subsequently, memory content changes through several suggestive influences, reflections become facts, and existing information is lost or filled in by invented details. Memory details are further distorted by suggestive interviews. Alterations of our knowledge will have us recall events that occurred long ago in a completely new way. The memory of the same event can also turn out very differently depending on the situation and mood. The quotation from forensic psychologist Dr. Julia Shaw at the beginning of this article says it in a nutshell. An investigator

can only try to conduct a cognitive interview as soon as possible after the event in order to obtain reasonably reliable memories. However, it is not possible to draw a reliable conclusion about an – or even *the* – objective reality based on purely subjective data. The deduction of anomalistic object characteristics in UFO sightings from witness testimonies has no basis in the natural sciences. Even natural scientists well-disposed to this topic point out the problem of witness testimonies and the current rather deficient data situation as well as the necessity of reproducible, objective and high-quality evidence.^{37,38,39}

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Three Simple Tests of Eyewitness Reliability

Ulrich Magin

Abstract: The main sources of our knowledge about UFOs are eyewitness reports. These are often treated, by believers and sceptics alike, as reliable accounts of something external that has actually happened. But how reliable are eyewitness reports (not to speak of human perception)? There are three ways to find out – in simple exercises that anyone can do, and without going into the specialist jargon of the psychologists (although there exists a large body of academic papers and investigations that confirm the simple things I am about to say here).

Keywords: Perception, Misperception, Memory errors, Sightings in groups, UFO observations, Monster sightings, Hunting accidents

Misperception During Perception

In Marklohe, Lower Saxony, Germany, a 64-year-old hunter shot a 44-year-old comrade in mid-March 2020 because he thought he was a deer in the distance.¹ In Germany, the completion of an official hunting exam is required to own a hunting license. One can say, therefore, that a hunter is an expert in his or her field. Still, at least a dozen people are killed each year in Germany by hunters who believe them to be boars, or roe, or red deer, even when they wear flashing orange safety vests.²

A recently published French study presents 29 cases from 1976 alone (of a total of 138 UFO cases reported in that year) where people mistook the full moon for an alien spacecraft that had landed in their garden – surely, a misperception several times more extreme than misperceiving a bolide for a spaceship.³

In other cases, people have watched the disintegration of a bolide in the earth's atmosphere and reported rocket-like spaceships with windows!⁴

People have seen, and reported in great detail, volcanoes that erupted – in regions with sandstone or limestone where no eruption has taken place for millions of years.⁵

Even pilots are prone to make mistakes: A recent study by “drone manufacturer DJI, and ... Academy of Model Aeronautics ... found only 27 out of 764 drone sighting reports by aircraft pilots were legitimate near misses.”⁶

Perception is far from certain, and sometimes fatal. You can test this yourself by going to Google News and entering “hunter” and “mistake,” or “pilot” and “mistake.” There are updates each day!

¹ web.de. “Jäger bei der Jagd erschossen.”

² Magin, “Zuverlässigkeit von Augenzeugenberichten.”

³ Maillot et al., “Mistaking the Moon.”

⁴ Borraz Aymerich, “Meteoros con ventanillas,” pp. 15–24.

⁵ Magin, *Investigating the Impossible*, pp. 127–163.

⁶ Anon., “Hu-hum or not?”

Changes Over Time

Kenneth Arnold, the first UFO witness, changed the story of what he had seen several times over the years – regarding size, behavior, and appearance of the half-moon-shaped objects he saw on July 24, 1947.

In autumn 1866, Maria Schrott saw a Tatzelwurm, a kind of dragon, in the Alps in South Tyrol, when accompanied by her husband – or so she told researchers in the 1930s. However, as she was 78 in 1934, she would have been married at an age of 10 or 11 years. Clearly, time distorts memory.⁷

Mrs. Winifred Cary saw the Loch Ness monster for the first time in 1918. Or in 1920. Or in 1917. The date depends on when and whom she told of her observation. It was “as big as a whale and the hump must have been at least six or seven feet out of the water.” Or, in another telling, it was “over 20 feet (6.1 m) long and about 4 (1.2 m) feet above the water.” She saw the monster dozens of times, and no two lists of her sightings agree. Even Roland Watson, who is a strong promoter of the monster’s reality and of Mrs. Cary’s reliability, has to admit: “The one big difference in the two accounts is that she told Cooke the hump rose to about six or seven feet (1.8-2.1 m) out of the water whereas she told Dinsdale it was about four feet (1.2 m). Moreover, one account says it was a quarter mile (0.4 km) from Temple Pier, but the other says a mile (1.6 km). [...] The only quibble with the fifth sighting is that one list gives it as happening in August 1962 and the other says August 1963.”⁸

An English couple, the Spicers, allegedly encountered the Loch Ness monster in 1933. It was six to eight feet (1.8-2.4 m) long and, as Mr. Spicer wrote in a letter to the local newspaper “Inverness Courier,” “it crossed my road about fifty yards (46 m) ahead, and appeared to be carrying a small lamb or animal of some kind.” The Spicers changed this story after their initial report. When asked by researcher Constance Whyte in 1957, they complained that people had made fun of them: “Reports were circulated that the Monster had been seen ‘with a lamb in its mouth’; this and other distorted or incomplete accounts were common at the time and, much to the annoyance of Mr. and Mrs. Spicer, were frequently repeated afterwards.” To Mrs. Whyte they now said that “[o]n reflection, [they] decided that it must have been the end of the tail.” Regarding the size of what they had seen, the Spicers started to enlarge the six to eight feet (1.8-2.4 m) previously given. In an interview with Tim Dinsdale in 1960, the Spicers judged the length as 25 feet (7.6 m). In the middle of the 1970s, Nick Witchell increased the length to 30 feet (9.1 m).⁹ Stories grow, eyewitness reports adapt to criticism. If people do not believe in a monster that carries a lamb, you claim that this was a press invention.

One can test this phenomenon by following up with interviews with eyewitnesses over a range of time, although admittedly this is arduous.

⁷ Steinböck, “Der Tatzelwurm und die Wissenschaft,” p. 459.

⁸ Watson, “The Monster Sightings of Winifred Cary.”

⁹ Magin, *Investigating the Impossible*, pp. 210–211.

Group Sightings

Sometimes, more than one witness observes an anomalous phenomenon. Generally, in the literature, the main witness is quoted, and the remaining ones simply confirm what he or she has just said. At other times, someone has the presence of mind to interview the witnesses separately. Often, very different stories emerge.

In November 1960, 50 pupils of Fort Augustus School watched the Loch Ness monster for 10 minutes. Their master collected 47 individual reports. No two agree. There are some who observed one hump, others two humps, some three humps; there were those who saw a head and neck, or a tail; some who said it was always above the surface, some who saw it dive; etc. A multitude of reports should give us more certainty, but that is not always the case. If a monster had appeared, with three humps and a head and neck, those who saw only one hump seriously misperceived. If it was only a wave, those who reported a monster misperceived. We do not know what was there to be seen, the only lesson we learn is: eyewitness reports *per se* are faulty.¹⁰

On February 4, 1977, children at school recess in Broad Haven, Wales, saw a landed UFO in a nearby field. Fifteen children were interviewed. To some it looked like two saucers piled on top of each other, and it hummed. Another child saw landing gear. Still another, a silvery man with pointed ears. Another said the UFO looked like a saucer with a cupola on top, and an orange light. Some said the UFO appeared suddenly, others said it came out of a bush. No two reports or drawings of the craft agree. If there was a humanoid at the saucer, the 14 witnesses who did not see it were mistaken. If not, one witness was mistaken. How can we judge whose report can be relied on and whose cannot?¹¹

This confusion can grow as time passes, and not only perception, but memory gets faulty. Early in the 1960s, Mildred Nye was present when a giant 5-m-long tadpole-like sea creature was carried away on a lorry at Orford in England. Monster expert Tim Dinsdale researched the case – only to learn that the monster had been a common 3.3-m-long blue shark, just half the size and girth of the “tadpole.” Yet Mrs. Nye was an honest reporter, her memory just had been distorted to the extreme.¹²

These are not random problems. In two longer papers,^{13,14} I have listed first 17, then 22, instances where reports by more than one witness have separately been protocolled, and there were gross distortions and disagreements in each case.

Conclusions

We can only see how reliable an eyewitness account is when we can check it against a known object. If the witness portrays a fire balloon, Venus, a meteor, or a plane, we can judge whether he or she is a reliable reporter, because we do know what the objects look like, independent of

¹⁰ Burton, *The Elusive Monster*, pp. 26–35.

¹¹ Pugh and Holiday, *The Dyfed Enigma*, pp. 21–31.

¹² Dinsdale, *The Leviathans*, pp. 151–155.

¹³ Magin, “Problemfall Gruppensichtung.”

¹⁴ Magin, “Das Problem der Gruppensichtungen.”

the witness. This is why we can certainly discern IFOs, or identified flying objects. We can calibrate the tale we are being told.

On the other hand, we have no “real UFO.” We cannot evaluate whether a report tells us anything about a genuine UFO. We cannot calibrate it against something we know and find out how accurate the report is. This is why categories like Problematic UFO, Good UFO, or Best UFO are basically senseless and worthless. We only have eyewitness reports telling about them, and these cannot be calibrated, as we know nothing about Good UFOs, or Best UFOs.

This is an old hat. Aimé Michel wrote, already in 1958:

*An isolated phenomenon—one that evades not only systematic experiment but even systematic observation—cannot be the subject of scientific inquiry; it is at best a historical fact; and if its truth is in question, it is not even that. [...] Hitherto the only ‘study’ of saucers that has been possible has been analysis of the reports of witnesses after sightings. But this is not the scientific method. The analysis of testimony properly belongs to the law courts and to history, which attempt to weigh human uncertainties; for the present at least, science cannot apply its methods there.*¹⁵

UFO reports are just that, reports, and the science that takes care of reports is humanities, and all research says such reports are unreliable and cannot constitute proof of anything we do not yet know.

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Reliability of UFO Witness Testimony in Extreme Close Encounters: “Abductees” & “Contactees”

Daniel Mavrakis

Abstract: Some people claim to have come into contact and communicated, sometimes repeatedly, with beings of extra-human origin. We can distinguish “abductees” reporting an abduction experience and “contactees” claiming direct contact with non-human entities. Numerous studies have concluded that most “abductee” experiences were caused by altered consciousness states occurring in subjects without psychiatric symptoms, often facilitated by the use of hypnosis by investigators. In contrast, the alleged “contactees” we have studied were mostly suffering from patent psychiatric disorders, often in the form of paranoid delirium.

Introduction

The UFO phenomenon has the peculiarity of not being reproducible and therefore it doesn’t lend itself easily to traditional experimental scientific analysis. This is also valid for many other phenomena such as ball lightning, not to mention meteorites (both long disputed by scientists). The UFO phenomenon cannot therefore be studied directly, as pointed out by Hynek (46) and Esterle (28): it can only be comprehended through sighting reports. This explains the crucial role of the alleged witness as a transducer of information (49), and sometimes even as a creator when it is not a question of real experiences, but of illusions, hallucinations, delusions, or hoaxes. It is therefore essential to study medical and psychological aspects which may affect the alleged witnesses and the reliability of their statements (66).

UFO sightings are classified into several groups (46), ranging from simple sightings at a distance (nocturnal lights: 65% of the cases, diurnal discs: 25% of the cases, plus rare radar/optical reports or instrumental observations) to close encounters (first kind: UFO seen close; second kind: side effects on the environment or living beings; third kind: where “animated entities” are sighted). In this paper we will focus on two categories extending close encounters of the third kind: “abductees” (sometimes called close encounters of the fourth kind) and “contactees” (sometimes called close encounters of the fifth kind).

Abductees

Numerous cases of “abductions” have been reported, especially in the United States (20) (22) (25) (76), more particularly since 1961 (when the case of Betty and Barney Hill benefited from wide publicity). These experiences are characterized by memories of being captured by non-human entities and subjected to varying degrees of physical examination. These experiences have received considerable publicity and have often been interpreted as proof of the existence of extraterrestrials. Apart from a few rare cases, the good faith of the witnesses, who are convinced of the reality of their experience, cannot be doubted (5) and is generally accepted even by the most ardent skeptics.

An abduction experience usually occurs at night, in a car (after a long tiring period of driving), outdoors, or simply in bed. The subject sees an intense blue or white light rapidly approaching him (or her), hears a buzzing noise, is distressed, and feels the impression of an inexplicable alien presence near him. Feeling paralyzed, he is then transported, or feels himself floating, inside a large room, where strange beings are frequently found, and may then undergo various

examinations (which can range from vague sensations of touching to a thorough medical examination). Generally, no substantive element of the witness's experience is provided. In a few cases, the witness has claimed to have recovered "artifacts" but the analysis of these artifacts has always allowed a demonstration of a commonplace origin (terrestrial organic in general) and not extraterrestrial (85).

Bullard showed that an abduction experience usually includes several of the elements below, usually in this order (19) (20):

- Capture: Unknown beings capture the witness in a strange way, attributed by the witness to magic or higher science. The capture generally happens in a fairly stereotypical fashion: the witness is generally alone and isolated, during the night, the environment is brutally disturbed by a strange phenomenon such as a brilliant light rapidly approaching the subject, hissing, buzzing. The witness then loses contact with the reality of the usual outside world and feels paralyzed, and has the impression of passing through a luminous tunnel to find himself in an ovoid room or a large brightly lit hall.
- Medical examination: the witness is examined in a more or less thorough and humiliating way by humanoid occupants. Often the witness has only a fuzzy perception of this "examination": he feels a sensation of foreign presence, feels manipulated, touched, palpated. In extreme cases, the examination can go as far as the removal of sperm or ovum, or even rape.
- Other elements may include a discussion with alien beings, inspection of their machinery, a voyage beyond earth, or an encounter with superhuman beings.
- Return: the subject is then carelessly released back on Earth, either in the environment where he was when captured, or in another isolated place.
- Subsequent repercussions: the subject, usually terrified by his experience, will then frequently suffer repercussions from his adventure: physical, mental, mystical, even paranormal.

This typical scenario covers most of the elements that can be encountered during abductions; in general, a given removal contains only some of these elements. Sometimes the subject retains the memory of all or part of the events he thinks he has experienced (vigilant abduction), but usually most details will only be remembered afterwards, either under hypnosis, or "spontaneously" (after study, it turns out that most "spontaneous" recollections are hardly spontaneous and occur after suggestions from the subject's entourage, from reading an article, or from viewing a TV program on abductions). Frequently, the witness will then be able to notice missing time in his memories, corresponding to the amnesia of the period of the abduction, and leading him to seek the cause of this missing time. Enthusiastic ufologists attribute this amnesia to the intervention of the aliens who carried out the abduction, whereas skeptics consider the entire experience to be delusional, imaginative, or dreamlike.

Here is an example of a widely publicized abduction:

On January 4, 1975, Carlos Alberto Diaz, a 28-year-old married man, returned to his home in a suburb of Bahia Blanca (Argentina). It was already 3:50 in the morning. While crossing a railway line, he was suddenly blinded by a strange light. Anguished, he wanted to run away, but was unable to make the slightest movement. He then heard a buzzing, then felt himself pulled up off the ground and then fainting. The witness then relates that, when he regained consciousness, he found himself in the center of a brilliant sphere, slow and translucent, surrounded by three greenish unknown creatures floating around him. The creatures began to tear hair from the witness, who tried in vain to resist and then lost consciousness soon after. The witness woke up at allegedly around 15:00 on the side of a highway in Buenos Aires, 785 kilometers south

of Bahia Blanca, his watch having stopped at 3:50. After hitchhiking and admission to a hospital center at 17:30 and having undergone in-depth medical examinations, the witness maintains his story.

Although this case has been considered as a hoax by several enquirers, this witness's account is also entirely consistent with hypnagogic hallucinations and sleep paralysis occurring either in a normal subject in certain infrequent circumstances or at any time in a narcoleptic subject.

Among the studies done on abductee cases:

- **Search for psychiatric pathology:** many authors have emphasized that these people generally do not suffer from a proven psychiatric pathology (24) (60) (63) (79) (98). It should however be noted that, by extension, authors frequently tend to confuse “abductees” (frequent) and “contactees” (rarer). However, we and other authors have noted that many “contactees” suffer from a psychiatric pathology (see below). The fact that most “abductees” do not seem to present any pathology does not mean that they are representative of the general New York population (52). Indeed, many authors have found in “abductees” either abnormal characteristics on the MMPI (high creativity, distrust, etc.) (79) and in particular dissociative tendencies (84), or psychosis (often in the form of paranoid delirium) (48) (95), significant anxiety (87), and a very high rate of suicide attempts (98).
- **Comparing ordinary controls vs. “abductees”:** Spanos *et al.* compared witnesses alleging an extraordinary event (ex: close encounter of the third kind) and those alleging a banal sighting (ex: unexplained light at night) and found no significant differences in terms of psychopathology, intelligence and difficulty in separating dream from reality (fantasy proneness) (97), which had been proposed by Bartholomew *et al.* (15) and other authors (38) (39) (78). This lack of fantasy proneness has also been confirmed by other authors (50) (88), notably Rodeghier (90).
- **Search for daydreaming personalities:** Rodeghier *et al.*, in a well-conducted study on 27 subjects (89) (90) classified the “abductees” into two distinct groups, one in the majority where there is no personality prone to dreaming or psychological disorders on the MMPI, the other where the tendency to daydream is higher as well as the overall score on the MMPI.
- **Induction by hypnosis or the simple suggestion of analogous experiences:** Lawson demonstrated that volunteers unaware of the problem could, under hypnosis, relate abduction experiences very similar to those described by the “abductees” (57) (58). Lynn *et al.* found similarities during simple suggestions without the use of hypnosis (62). This of course suggests these experiences can be completely generated by the witness's imagination and the invoked mental mechanisms and imagery that are widespread in the general population.

According to numerous studies (10) (11) (14) (17) (18) (29) (30) (44) (81) (86) (97), most if not all “abductee” experiences may be explained by altered states of consciousness triggered by various causes (101):

- **Hypnagogic and hypnopompic states:** Isakower (47) described in 1936 the phenomena occurring in certain circumstances when a subject falls asleep: a so-called “hypnagogic” state precedes sleep and, at its onset, the subject may for example have the impression of observing speedily approaching round objects rapidly growing to gigantic size, and appearing to crash into the subject. Many other types of sensations are possible. Lasting a few seconds to minutes, these hallucinations can be so clear and precise that they are almost indistinguishable from reality (71).

Their strange nature causes many who experience them to attribute them to supernatural causes. In addition to hypnagogic hallucinations that occur during sleep onset, hypnopompic hallucinations may accompany wakefulness (70). It is interesting to note that widely used sleep inducing drugs such zolpidem or zopiclone facilitate those states.

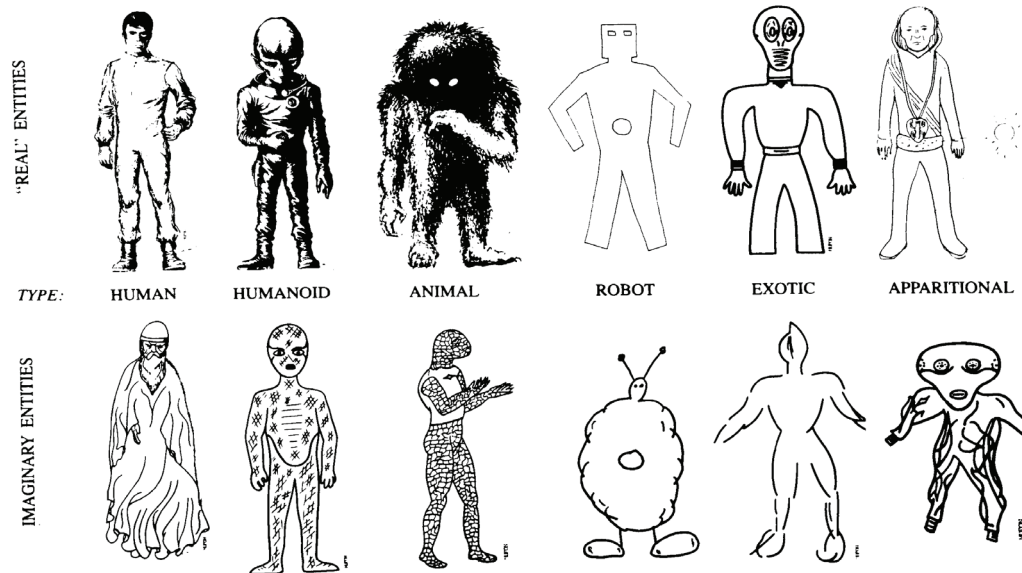


Figure 1: Examples of entities reported by alleged abduction witnesses (top) and drawn by volunteers who were hypnotized to suggest that they had been abducted (bottom). One notices the similarity between them (Lawson, 58).

- **Sleep paralysis and dreamy state:** close to hypnagogic states, sleep paralysis is an intermediate state between wakefulness and sleep where the subject is conscious but is unable to move or speak (35). Movements of the limbs, trunk and head are impossible, while respiratory and eye movements are preserved (104). This complete muscle atony, often experienced in an agonizing way, can occur in a large percentage of normal subjects, especially when taking hypnotics, as well as in patients suffering from narcolepsy (about one out of three narcolepsy sufferers presents this symptom (56)). Rather, it should be referred to as waking paralysis, as it most often occurs upon awakening, and is often accompanied by vivid and terrifying hypnopompic hallucinations. During this state, which can persist for several minutes, the subject often has the impression of a presence, of being pulled or manipulated, of feeling vibrations or light (multi-modal auditory and visual hallucinations are frequent) and may experience emotions ranging from simple curiosity (rare) to panic and terror (common) (21). Up to 40% to 50% of normal subjects are likely to present, at least once in their life, sleep paralysis and hypnagogic hallucinations, without a narcoleptic episode (7) (34) (35).
- **Narcolepsy:** Narcolepsy or Gélinau's disease is a rare but not exceptional condition where patients experience sudden bouts of daytime sleep, usually lasting a few minutes. These bouts are often also associated with hypnagogic and hypnopompic hallucinations and sleep paralysis, as well as automatic behaviors where they will mechanically perform mundane actions without remembering them when they wake up (56) (59). These hallucinations can occur during normal awakening and falling asleep, but also during sudden attacks of daytime cataplexy, often triggered by emotions (1) (56). The prevalence of narcolepsy is not negligible (between 0.026% and 0.16% according to authors (45) (56) and it can also be poorly known or even ignored by the subjects.
- Use of some drugs, but mostly **side effects of prescribed medications**.

- **Sleep, food, drink and sensory deprivation.**
- **Use of hypnosis:** In many cases, subjects recounting an experience of close observation, contact or abduction or most often vaguer episodes, for example missing time or simply sleep disorders and nightmares, were subjected to hypnotic regression sessions intended to recover memories considered “forgotten” or “repressed” by the patient’s unconscious. Such usage of hypnosis has been strongly criticized (54) (55) (77) as hypnosis may increase the amount of data obtained from the subject, but not its reliability, because it greatly increases the subject’s vulnerability to suggestions (3) (37) (41) (96). Not only does hypnosis not improve memory (96) or data reliability, but in some cases it can even make the subject overconfident in the accuracy of erroneous memories (53) (106), perhaps by inhibiting the structures responsible for judging the reliability of memories, or by increasing the vividness of the representation of the memories thus evoked (26). Consequently, the facts reported under hypnosis do not always correspond to real events and often turn out to be imprecise, distorted or even purely imagined (102). As summarized above, in a significant and well-conducted study which caused a sensation in ufology circles, Lawson demonstrated that similar experiences and close details could be reported under hypnosis by normal volunteers, who had never before reported such an abduction experience and were considered naïve (unfamiliar with the phenomenon). This demonstrates not only that the reliability of hypnosis for retrieving the history of an alleged “abduction” is poor, but also and above all that these experiences call upon archetypal mechanisms and socio-cultural representations present in many individuals (57) (58).
- Rarer causes, such temporal epilepsy suggested by Persinger (82) (83), migraine (6).

Symptoms	Likely explanations
Sensation of paralysis and foreign presence	Sleep paralysis
Seeing a bright light or an object rapidly approaching the subject, hearing a buzzing sound	Isakower phenomenon (hypnagogic hallucinations)
Floating and moving sensation	Muscle relaxation, inhibition of proprioceptive sensations, vestibular sensations, sleep paralysis.
Vague memory of being pulled, poked, pushed, examined by alien entities	Hypnagogic and hypnopompic hallucinations aggravated by fear
Missing time where the subject no longer remembers what he did during the period considered	State of sleep, dreamy state, automatic behavior
Marks and traces on the body with no memory of the causative event	Common phenomenon: most people, if they examine themselves carefully, will find those
Sudden recall of “repressed” memories after hypnotic regression, awake suggestion, reading an article or viewing a program on the topic of abductions	Creation of incorrect pseudo-memories by auto- or hetero-suggestion.

Table 1: The main symptoms presented by the “abductees” and their possible explanations according to the hypothesis of the occurrence of altered states of consciousness (according to Baker (11)).

Contactees

In some cases, people claim contact and communication with beings of extra-human origin. This communication could have been made within the framework of an alleged UFO sighting, in other cases, the extra-human origin is affirmed without a sighting being associated. Although a single

communication may be reported, in most cases the witness reports multiple communication events and sometimes claims being still in contact with these entities. It is interesting to note that such allegations are not only contemporary (27) (74), even if they have greatly increased in the last seventy years (75).

In the literature devoted to the UFO phenomenon, these individuals are referred to as “contactees,” to be differentiated from “abductees,” victims of an experience such as abduction, even if the contact occurs for “contactees” quite often during an alleged UFO abduction.

One of the most famous cases is undoubtedly the one reported by George Adamski, a 60-year-old man, already passionate about UFOs and a conference speaker on the subject, who in 1952 claimed to have observed a UFO and met on this occasion an alien passenger (99). Adamski provided various “proofs” (photos, plaster cast of the footprints of the extraterrestrial, corroborative testimonies, etc.) in support of his statements. The affair caused a stir and immediately gave Adamski international notoriety.

Within two years of the publication of Adamski’s first book in 1953 (*Flying Saucers Have Landed*), more than a dozen other supposed “contactees” came forward publishing works relating their adventures. Even though it is a demonstrated hoax, the Adamski case, which had considerable socio-cultural importance, can be considered the archetype of the “contact” cases.

In most cases, the alleged content of the exchange is significant: these beings, usually impressive and coming from a utopian planet, would have charged the so-called “contactees” with “missions” of planetary scope, often concerning nothing less than the safeguard of humanity (108).

Although there are charlatans and swindlers among them who shamelessly abuse the general public’s longing for escape and taste for the sensational, most seem to sincerely believe in what they say, but provide no objective and tangible proof to support their surprising assertions.

Although there is nothing to rule out with certainty that in some cases there really were genuine encounters with extraterrestrials, the characteristics of these reported sightings and missions, the elements underlying their speeches, often without great originality, stem from the classic themes of science fiction and our Western cultural baggage. This testifies in favor of a human rather than extra-human origin and reflects the conscious and unconscious ideas and wishes of the so-called “contactees” (58).

Jung analyzed the writings of a “contactee” from a psychoanalytical point of view (51). Audrerie has shown that ufological themes can serve as a basis for fabrications and delusions and has developed a psychopathological model of psychoanalytical inspiration about them (8). Several authors have observed patients and concluded that events were caused by altered states of consciousness in individuals not suffering from major psychopathological disorders, notably Beyerstein (16), Don and Moura (23) (24), French *et al.* (33). A few such cases have been described where contactees, abductees or mere witnesses to alleged UFO sightings actually had paranoid schizophrenia (43) (48) (92), paranoid delirium (95) or other psychoses whose type was not specified (61) (73) (91) (92), and had sometimes been hospitalized in a psychiatric ward. Other authors, on the other hand, have not found any psychiatric pathology among them but consider

them as personalities prone to daydreaming (“fantasy-prone personalities” according to Wilson and Barber (107)), and in particular Bartholomew *et al.* (15).

We were able to observe several of these contactees, most of them outside of a hospital setting (65) (67) (68) (69).

Contactees and Delirium

The study of the nine contactees that we studied led us to conclude that most of them were in fact suffering from patent psychiatric disorders, often of the paranoid or paraphrenic type.

Except for two patients hospitalized in the psychiatric ward, all the other subjects had, to our knowledge, no known psychiatric history. As we will see later, it is likely that they were able to find a balance in their delusional beliefs.

Here is an example of such a clinical case (69):

I was sitting in the premises of an astronomy association with a study committee on UFOs. Someone's knocking at the door. A person half-opens it, casts a circular glance over the room, then enters and closes the door carefully, not without first checking that he was not being followed [persecutory element]. He is a man in his thirties, apparently in good physical health, properly dressed, clean. He comes to meet the leaders of the association because he knows UFOs well... better than anyone else [megalomania]. After many convolutions, he finally agrees to come to the point. He often encountered extra-terrestrials, or rather he often fought them. These have indeed expansionist aims on our planet that would have long since fallen into their hands if he had not succeeded so far in defeating them thanks to his “psychic force.” Which explains why he is now the number one target of invaders who are ready to do anything to make him disappear. Moreover, in ambush fifty meters away, stands one of them, who will certainly try to shoot him (using an “X-ray” weapon) when he comes out [imaginative and interpretative delirium with a strong persecutory component]. At our request, he certifies to be in possession of numerous proofs of the existence of these extra-terrestrials. Unfortunately, he does not think humanity is mature enough to be able to take care of them. At our insistence, he finally agrees to show us a photo of an extraterrestrial craft leaving their secret lunar base: in fact, it is the luminous trail left by a meteor, at a low angular distance from the Moon. Just before leaving, he also let us glimpse a triangular symbol scribbled on a piece of paper: the secret acronym of the invaders. After an interview of about twenty minutes, he leaves, refusing to leave us his contact details: his duty of planet protector calls him.

The subject exhibits of course a delusion, that is to say, “a series of erroneous ideas, shocking the evidence, inaccessible to criticism” (31). The DSM defines delusion as “an erroneous personal belief based on incorrect inferences concerning external reality, and firmly held by the subject despite the opinion of nearly everyone and clear and irrefutable evidence to the contrary” (4). This definition is of course not perfect, for example in the case of contactees having founded ufological sects, the opinion of the leader is shared by his followers.

In the clinical case cited, this paranoid delusion is accompanied by megalomania and a feeling of persecution. Here the persecuting entity is represented by hostile extraterrestrials (80), whereas in most of the other cases that we have observed, the extraterrestrials are often perceived as benevolent. Like this subject, most of the contactees we met also seemed to suffer from a paranoid delusion, the persecutory component of which was often not as obvious as in the case just described.

This paranoid delusion most often finds its source in erroneous interpretations of real facts (interpretative origin) and/or in elaborations made according to the reality on which the patient develops fantasies with themes of power, grandeur, mysticism, etc. In general, the origin of delirium varies according to the case: non-hallucinatory, rarely dreamlike, it is above all imaginative, interpretive and sometimes intuitive. Most of these subjects can be classified as paranoid wish personalities according to Kretschmer, defined by the following characteristics:

- Megalomania and overvaluation of oneself, with pride, feeling of superiority, and greatness. There are, however, veiled forms, with false modesty and proselytism, even apparent timidity.
- False judgment and psychoridity, which allow the delirium to take shape and not be questioned by the patient. There is indeed a loss of self-criticism and a patent apriorism for subjects directly related to delirium, the capacity for objective reasoning for other facts being preserved. The subjects bear criticism very badly. The declarations of certain “contactees” are very subtle in this respect: one notices in their analysis that they include details and assertions that respond in advance to or discourage possible criticisms. For this same reason, the “contactees,” as Audrerie points out, most often give only unverifiable data (8). These mechanisms are probably the reflection of protective structures of the delusional construction and therefore of the Ego of the patients against an always possible collapse, either from external criticism or self-criticism.
- Slight social maladjustment, which is generally manifested here only by a marginal mode of existence: the “contactees” are more eccentric than sociopaths.
- Defense of ideals in a relatively low aggressive way. The defended causes are not personal, although their defense is used for self-promotion.

The delirium of the “contactees” encountered outside of a hospital or psychiatric environment was usually well systematized, coherent, and logical, often plausible; the number of flaws subject to criticism being inversely proportional to the patient’s intelligence.

On the other hand, there are other “contactees” who suffer from poorly systematized delusions, particularly if they are of the schizophrenic type: these patients are usually cared for in a psychiatric ward, and their delusions generally do not spread outside the hospital setting. We also observed a few patients suffering from paraphrenia; such delirium may be more or less well systematized.

It can be noted that only the themes of the patients’ delusions have changed over the years, taking into account recent technological and cultural achievements (science fiction): the Napoleon Bonapartes are now representatives of extraterrestrials! Lycanthropy, royal parentage and demonic possession have been replaced by “new age” themes. Maruani and Brillaud have moreover maintained in a study at the psychoanalytical level that “at the collective level, science fiction as modern mythology fulfills the same function than the imaginary in the paraphrenic” (64).

The majority of “contactees” with systematized delirium seemed to possess an inconsistent social status, at least before the onset of delirium (105). This means that their intelligence, their ambitions and sometimes their general culture was high compared to the social position they occupied. In these patients, megalomania and ego hypertrophy compensate and mask their unconscious feelings of frustration and inferiority. This is how the delirium often began, following an unpleasant and

frustrating professional or personal event which was felt as a failure by the patient. For example, in one case, the delirium took shape after a traffic accident, where the subject was driving an ambulance in which he was seriously injured during a frontal impact on a national highway, the transported patient dying on the scene. According to the subject, a deliberate extraterrestrial intervention caused the accident: this explanation of course exonerates the subject from any responsibility, having been the victim of superior forces outside his control.

Sects Founded by “Contactees”

It is interesting to note the similarities between these “contactees” and other psychotic founders of various sects. In fact, several “contactees” have created sects, often prophesying the imminence of a planetary cataclysm and working to save all or part of humanity from its imminent destruction, generally with the help of benevolent extraterrestrials (12) (13) (32) (108).

The relative plausibility of the well-systematized delirium of these patients explains their significant power of contamination by the creation of collective induced delusions (43). The psychotic “contactee” is then the inducing element influencing credulous and suggestible individuals, often less intelligent than him (40) (43). Some of the followers are moreover at the edge of the pathological and likely to cross over. These psychotic disciples will in turn play the role of inducing elements for other people, thus contributing to extension of the delusional group.

In fact, both in the United States and in Europe, many ufological sects, some famous, others marginal, flourish and bring together individuals with quite varied psychological profiles and objectives (2) (9) (13) (72) (74) (75) (100), often playing the role of alternative religions.

For Vallee, the attitude of systematic rejection of the phenomenon by established science plays a key role in the success of these sects (103):

Skeptics have refused people the right to explore certain areas. People are not fooled: they know their sightings are real, so the public finds themselves caught between what they know to be real experiences and the denials of the academic and scientific communities. This creates dissonance, but also a market for fraud, both in parapsychology and in ufology. It makes honest research almost impossible and it opens the door to extremist religious and spiritual movements.

Conclusion

- The current scientific consensus is that most “abductee” experiences are caused by altered consciousness states occurring in subjects without psychiatric symptoms, often facilitated by the use of hypnosis by investigators.
- In contrast, the alleged “contactees” we have studied were mostly suffering from patent psychiatric disorders, often in the form of paranoid delirium. The delirium is in general well systematized (coherent and plausible). The patients show a good adaptation to reality for the points not touching their delirium, which explains their significant power of contamination by the induction of true collective induced delusions that affects followers endowed with little discernment and excessive credulity.

Despite the cases presented and the socio-cultural impact of certain “contactees,” the relationship between psychiatry and the study of the UFO phenomenon remains rather weak, and as Schwarz observes, the vast majority of witnesses do not present any psychiatric pathology (93) (94). We must therefore be careful not to consider witnesses of an unidentified phenomenon as deranged

victims of hallucinations. This remains in my view applicable even if they relate strange close encounters of the third kind, “abductions” or even “contacts.”

In any case, it is essential that a mental health examiner of an alleged witness must demonstrate perfect objectivity and complete impartiality. The task is difficult since he is responsible for evaluating a patient whose speech may include strange and difficult to accept elements. The mere presence of unusual elements should not be enough to label the subject delusional or psychotic. It is therefore necessary for the examiner to free himself from his own prejudices related to the patient’s assertions, without uncritically accepting the witness’s allegations.

In the end, the important factors to take into account to determine the mental health of the witness are not the strangeness of the related phenomenon, but rather, in addition to the coherence of the account and the existence of corroborating elements, the behavior of the witness with regard to his experience, his medical history and the other psychopathological signs that he may exhibit.

As rightly pointed out by Gorceix, professor of Psychiatry at Paris University Hospital (36):

In our universe of scientific conformism and mediocre uniformity, the most benign originality, the most inoffensive belief is stigmatized by the term ‘delirium.’ We are not allowed to hear voices or meet demons, things that are all more likely than we think. A rigorous filter is placed between the mystery of the world and the representation allowed to our eyes as civilized men. The rest must be labelled as hallucinations. The best thing, if we happen to experience one day its overwhelming evidence, is to keep quiet. We will thus avoid prolonged internships in so-called specialized circles and the brutalization of massive treatments by these neuroleptic substances to which the counter-magic of scholars attributes an antihallucinatory power.

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Satanists, Aliens and Me

Richard Noll

Abstract: The author employs an autobiographical frame to address the concurrent rise of the satanic ritual abuse moral panic and claims of recovered memories of UFO abductions in the 1980s and 1990s. He highlights the influence of privileging subjective data over objective data as a source of scientific error that can lead to clinical, cultural and social movements that can potentially have adverse effects.

Keywords: Alien abductions, UFO abductions, Satanic ritual abuse, Subjective data, Objective data

Speak, Memory...

I am 30 years old. The year is 1990. I am a freshly trained and recently licensed clinical psychologist. I have just spent almost five years as a staff psychologist on various locked wards of a state hospital in New Jersey. I am trying to build a private practice in Philadelphia and am networking with as many other psychologists and psychiatrists as possible, just trying to learn the craft of my profession.

Like several generations before me, my training was psychoanalytic. Freud is still the god of the gaps for the tens of thousands of mental health professionals in the United States in 1990--the continuing failure of biological research to unlock the etiology and pathophysiology of mental disorders keeps him alive. As a clinical psychologist I was trained in graduate school to be a scientist as well as a practitioner, but I was groomed to develop a scientific self of subjectivity, not one of objectivity. Psychological tests that were designed to be tools of objective assessment (but not true measurement--there is a difference) were taught to us from a Freudian angle--we were to make psychoanalytic speculations about individual item responses and to downplay the significance of a cold, unempathetic bit of data such as a final composite IQ score. Objective data, we were told by our clinical professors, was too general and could not possibly capture the rich uniqueness of an individual human being. True enough. But there was almost a reflexive dismissal of objective data among most of the supervisors in my graduate school clinical training. We were trained to trust our feelings in the presence of a patient, to trust our gut, not objective data. In 1990 I am still sympathetic to aspects of this conceit, but for the past decade I have agonized over the prioritizing of subjective data over objective data and am losing respect for my profession.

But in the late 1970s there was a revolution within the American Psychiatric Association, led by mostly younger psychiatrists who asserted--correctly--that if psychiatry was to remain a legitimate branch of scientific medicine it had to eliminate Freud. Within the APA there was a palace coup. The ritual sacrifice of the totemic father became public in 1980 with the publication of the latest edition of the diagnostic manual, DSM-III. Freudian nomenclature and symptomatology were banished, differential diagnosis strove to become descriptive (checklists of signs and symptoms for each disorder), and assumptions about the causality of mental disorders were--mostly--eliminated. No more Freudian psychogenic mental mechanisms--conditions such as schizophrenia and autism were no longer caused by mothers, even though I had been told so by my graduate

school professors, most of whom (except my dissertation supervisor) dismissed biological hypotheses with the wave of a hand in class. Mothers were the pathogens.

This top-down revolution in the APA disoriented and offended many. I was less conflicted than most because I entered graduate school in January 1980 and learned the new DSM-speak of checklists along with Freudian defense mechanisms. But later, when out of school as the 1980s progressed, I still had trouble buying into the bio-babble of neurotransmitters, genes, and receptors that the National Institute of Mental Health and the pharmaceutical industry forced us to speak. In my first year as a psychologist in a state hospital locked ward I was shocked–shocked–to read a sentence in a 1985 book on schizophrenia by psychiatrist E. Fuller Torrey called *Surviving Schizophrenia* that bluntly stated schizophrenia is a “brain disease.”¹ We were taught in school it was all due to bad mothering and I was trying, unsuccessfully, to “see” that psychogenesis in my psychotic patients. After all, the American psychiatrist and psychoanalyst Silvano Arieti had won a National Book Award in Science in 1975 for a massive tome that argued that mothers were the definite cause of a quarter of all the cases of schizophrenia he had encountered in his practice, a conclusion based on the subjective data in his files of individual case histories.² But despite what the wise old men and women of the Freudian era had claimed, and despite my own youthfulness and newness to the profession, this bold new biological hypothesis “clicked” for me. It matched my observation of the physical signs and disabilities of my psychotic patients. The objective data for the pathophysiology of schizophrenia and bipolar disorder shifted my worldview. I was evolving.

Satanists

I am sitting at a long table on a stage in a large conference room in a Chicago hotel. It is November 9, 1990. I am part of an opening plenary session panel of four—two prominent American psychiatrists and an anthropologist are beside me—and I am facing a room packed with more than 700 people and TV camera men. The vast majority of the audience is hostile to the ideas we are about to propose. The tension in the room is palpable.

We are there to offer critical views of the claims of patients and mostly Freudian or “psychodynamic-oriented” mental health professionals, based entirely on subjective data, that thousands (millions?) of persons are now recovering memories of physical, sexual, and emotional abuse by persons, mostly family members, who are secret members of cults that worship the Christian Devil. In 1990 many psychiatrists, psychologists and social workers, police and judges and prosecutors, feminist scholars and child abuse experts, and a large section of the general public in a country where as much as 40 percent of the population identifies themselves as “born-again” Christians and conservative Roman Catholics all believe in the reality of these satanic cults. Such satanic cults were claimed—even by some top psychiatrists in the APA involved in the creation of the DSM—to be intergenerational in families and these satanists had been kidnapping children and ritually abusing and sacrificing them in secret for the past 2000 years. Satanic ritual abuse was claimed by some top members of the psychiatric profession as the causal source of trauma that had created the epidemic of Multiple Personality Disorder diagnoses in the United States in the previous decade. This is the 7th International Conference on Multiple Personality/Dissociative States. The previous six conferences had served as Petrie dishes for the growth, cultivation and

¹ Torrey, E. Fuller. *Surviving Schizophrenia: A Family Manual*. New York: HarperCollins, 1985.

² Arieti, Silvano. *Interpretation of Schizophrenia*. New York: Basic Books, 1974.

spread of SRA claims. Our presentations on that day are the first critical viewpoints of this extraordinary claim to be presented at these annual series of conferences that have done so much to spread the moral panic about “satanic ritual abuse” (SRA) within the mental health professions. I am young, have no institutional affiliation, and I am nervous to be on that stage with three older and more accomplished compatriots.

The first two speakers are the psychiatrists. They present what they no doubt felt were balanced, rational arguments for separating clinical evidence into objective data (historical truth) from subjective data (narrative truth). They are careful not to offend the audience and they do not directly challenge SRA claims nor the presumed reality of an international ring of satanic cults. The presentation of the anthropologist, and my presentation, directly attack the claims of the existence of satanic cults, the kidnapping and ritual murder of children, and we use historical parallels to show this fantasy has a two-thousand-year history in Western culture and is nothing new. Along with one of the psychiatrists, the anthropologist and I both cite a recent study by Ken Lanning of the FBI of hundreds of cases of crimes (mostly vandalism, often in cemeteries) interpreted by local law enforcement as “occult” or “satanic” in nature.³ The FBI could not find a single piece of objective evidence that indicated that there was a group of individuals worshipping Satan who were committing crimes. Nor did the inflated numbers of claims of missing children in the United States supposedly kidnapped by satanic cults match the far lower real number of children who had gone missing. Instead, the FBI found that the typical “satanist” criminal was a white teenage boy who, sometimes with his buddies, vandalized property by spray-painting “occult” symbols or killed animals while being intoxicated with alcohol and illegal street drugs.

The anthropologist and I are rather strident in our presentations. We ruffle feathers. As I sit at the table on stage after our brief talks, I see an attractive, intense woman who is making her way through the crowd to me, keeping her eyes locked on mine the whole time. When she stands before me, I see on her name tag she is Gloria Steinem, the famous feminist journalist and author. She gently suggests I am wrong about denying the reality of these satanic cults and that SRA really does exist. She writes down a few books for me to read so that I might change my mind later. It is clear she is a firm believer in the reality of these cults. Later I am approached by a member of the audience who was sympathetic to my critical arguments. She is a licensed mental health professional. She warns me that most in the audience were angered by my presentation and that some were claiming I was a witch or a satanist who was there to spread misinformation about who I really was by publicly denying the reality of the very satanic cult to which I must assuredly belong. As I was to learn later in a book by an apparent conference attendee and “believer”: “Mulhern [the anthropologist] and Noll cut a line through the therapeutic community. A minority joined them in refusing to believe sacrificial murder was going on; the majority still believed their patient accounts.”⁴

That cold day in Chicago some thirty-two years ago only exists in my memory as a series of intense flashbulb memories at this point in my life. The same is true for so many of the interactions I had with other psychologists, social workers, and psychiatrists both before and in the years just after

³ Lanning, Kenneth V. *Satanic, Occult, Ritualistic Crime: A Law Enforcement Perspective*. Quantico, Virginia: National Center for the Analysis of Violent Crime, FBI Academy, 1989.

⁴ Lockwood, Craig. *Other Altars: Roots and Realities of Cultic and Satanic Ritual Abuse and Multiple Personality Disorder*. Minneapolis: CompCare Publishers, 1993, p. 17.

that conference. The strong impressions I have of those encounters were of my incredulity when I heard from them how strongly they believed in the reality of these cults. They uncritically believed claims such as the existence of cults engaged in the worship of Satan, that abominable crimes were committed by families for generations, that in fact entire towns (usually in “the South” for some reason) were totally comprised of these cults. Yes, I personally heard these claims from my fellow psychologists in a profession I was trying to master. I began to turn my back on the mental health professions at this point because I thought so many clinicians had gone absolutely mad. They were drawing fantastic conclusions based on their “gut” feelings, and often Christian religious beliefs, that these extraordinary claims “must” be true because so many people said so, and they seemed to have the incapacity to distinguish between objective data and subjective data. But to be fair, that’s how so many of us were trained in the psychoanalytic era.

It is easy to understand how the epidemic of diagnoses of Multiple Personality Disorder (MPD) exploded after 1980 until the late 1990s when civil cases by patients against mental health professionals led to massive, multimillion dollar settlements finally reduced the use of that diagnosis.⁵ In 1980 the new DSM-III included a new category of new diagnoses (including MPD for the first time) known as the Dissociative Disorders, and in 1987 DSM-III-R made MPD the centerpiece of the group. This was the only category of mental disorders that still included a putative cause—trauma—as the source when such speculations (mostly Freudian or psychogenic) had been eliminated for all other categories of disorders. The thoroughly psychoanalytic/psychodynamic population of mental health professionals who were angered and disoriented by the new non-Freudian disorders introduced in 1980 flocked to the Dissociative Disorders, and MPD in particular, as if they were survivors of a shipwreck swimming toward an island of safety. Trauma caused dissociation (a splitting of consciousness, memory, and personal identity) and it was argued that only therapies such as Freud’s which posited psychogenic origins and unconscious traumatic memories that could be “recovered” in a pristine fashion could cure it. MPD was assumed to be caused by extreme and prolonged abuse but today is now considered to be a historical anomaly and an iatrogenic “idiom of distress” despite its survival in DSM5 (2013) as Dissociative Identity Disorder (DID). Clinicians rarely use this diagnosis in the United States today because insurance companies refuse to honor it and will not reimburse clinicians for treatment. Insurance companies are also afraid of paying out large sums in malpractice suits if a patient treated for MPD/DID sues the clinician. The linkage of MPD to the mad fantasy of international, multigenerational satanic cults abusing children, is more complex.

The roots of the MPD/SRA conflation were to be found in a witches’ brew bubbling up through the 1970s: the rise of awareness of child abuse and incest, the feminist movement, the fear of the popularity of “the Occult” and the magical traditions of New Age Spirituality, the spread of hypnosis and “recovered memory therapy,” the rise of Christian evangelical political power in the United States, and, of course, mass media. Historian Masimo Introvigne has documented how, throughout the centuries, repeated eruptions of historical fantasies about secret groups of witches or satanists who are a threat to the larger Christian population have occurred, and he has demonstrated that anti-Satanists have always existed but that there is no historical evidence that

⁵ Barden, R. Christopher. “Reforming Mental Health Care: How Ending ‘Recovered Memory’ Treatments Brought Informed Consent to Psychiatry.” *Psychiatric Times*, June 5, 2014.
<https://www.psychiatrictimes.com/view/reforming-mental-health-care-how-ending-recovered-memory-treatments-brought-informed-consent>

satanic cults ever have.⁶ Science journalist Mark Pendergrast published a book a few years ago on the history and continued existence of “recovered memory” therapy and SRA beliefs and the reader is referred to it for a ghastly rehash of how humans can lose their minds when subjective data and cultural/religious beliefs are prioritized over objective data and science.⁷ In 2014 I also published a brief memoir of the satanic panic which caused a minor controversy, including pushback from two of the prominent psychiatrists who had been instrumental in promoting the link between MPD and SRA in the 1980s and 1990s.⁸

Aliens

And then, in the midst of the satanic panic of the 1980s and 1990s, came those stories about recovered memories, usually via hypnosis, of UFO abductions. As I try to teach my students, one must distinguish between coincidence, correlation, and causality. The rise of reports of UFO abduction experiences, the vast majority of which did not include a sighting of a UFO and most often took place in bedrooms when an “experiencer” was alone, seemed to me then and seems to me now to be correlated with the satanic panic. At the time it seemed a new iteration of the iatrogenic epidemic of the diagnosis of dissociative disorders. The iatrogenic phenomenon was evolving into a new phase as satanists were replaced by UFO aliens as the new perpetrators--totally imaginary and non-falsifiable this time--of abuse and trauma. It did not, and still does not, seem to be a coincidence that these two extraordinary narratives arose in our culture at the same time. Both mass media and mental health practitioners (in which I include non-clinician lay practitioners and hypnotists who were untrained artists and college professors, for example) fueled these fantasies.

It was after the publication of Whitley Strieber’s *Communion* in 1987 that I remember, certainly by 1989, that my colleagues in the mental health field that I would meet at lectures or conferences began to talk of patients entering their practices who told stories of conscious or recovered unconscious memories of being abducted by aliens. I never had such a patient but I did have acquaintances, friends of friends, who claimed they were recovering UFO abduction memories after reading *Communion*. Hearing these UFO abduction stories from their patients unsettled many of my colleagues and, as I remember it, this new clinical phenomenon caused many of them to recoil from such reports. Some--the more enlightened ones--began to reassess their former committed belief in the SRA phenomenon. They had been trained during the psychoanalytic era to prioritize subjective data from patients, but UFO abduction stories required a higher order of magnitude of credulity. For them this newly evolving phase was too wacky, too bizarre, a step over the line of rationality that, in truth, they had already crossed by believing in the existence of widespread satanic cults abusing children and creating the MPD epidemic.

I was invited to be on that panel in that MPD conference in 1990 because I had written a letter that was published in the peer-reviewed journal *Dissociation* in December 1989. It was the first unambiguous skepticism about SRA claims to be published in a medical journal. In my brief letter I may have also been the first to link SRA claims to claims of covered memories of UFO

⁶ Introvigne, Massimo. *Satanism: A Social History*. Leiden and Boston: Brill, 2016.

⁷ Pendergrast, Mark. *The Repressed Memory Epidemic: How It Happened and What We Need To Learn About It*. Charn, Switzerland: Springer, 2017.

⁸ Noll, Richard. “Speak, Memory.” *Psychiatric Times*, March 19, 2014.

https://www.academia.edu/6496435/_Speak_Memory_Psychiatric_Times_21_March_2014_debate_on_role_of_American_psychiatry_in_the_satanic_ritual_abuse_moral_panic_of_the_1980s_and_1990s_

abductions. I concluded then—and stand by it now—that SRA beliefs and claims are evidence of “a modern version of (a) paranoid mass delusion—and one in which all too many clinicians and law enforcement officials also share.”⁹

As for the correlation of SRA and UFO abduction claims I can point to the extraordinary work in the 1980s and 1990s of Thomas “Eddie” Bullard, master folklorist and scholar that he is, who did a comparative analysis of these stories and also hinted at their common roots (the iatrogenic effects of hypnosis and recovered memory therapy, cultural, religious and mass media vectors, and so on).¹⁰ To my knowledge no other scholar has checked his voluminous data nor have any served as independent raters using Bullard’s own quantitative rating scales which he used as heuristics, so we do not know if other independent assessors of his work would yield the same conclusions. I respect Eddie and have enormous affection for him, but upon reading his work carefully, in it he seemed to have placed his thumb on the scale to tilt toward the possible objective reality of “something” behind UFO abduction accounts because the structure of the stories in “high reliability abduction reports” is consistent whereas “low reliability abduction reports” and SRA accounts are much more varied. I respectfully disagree. I do not think such a comparative analysis of subjective experiences in the absence of objective data for UFO abductions can lead to such a conclusion. There is no way to use comparative folklore studies or comparative religion analyses, even if using ratings scales as heuristics, to confirm an “event” from a study of “experience” when it comes to abductions. Satanic cults conducting SRA was always a potentially falsifiable claim, and as a result it has been falsified. Unless objective data associated with subjective claims of UFO abduction experiences arise, we unfortunately are in for an eternity of claims from experiencers whose methods resemble more and more the phenomenon of spiritualism.

In my opinion it is a weak argument that the consistency of UFO abduction stories may suggest an underlying objective reality to the phenomenon. Many make such a claim. But as someone who has toiled in psychology and psychiatry as a student, practitioner, researcher, and teacher for more than 40 years, I am also reluctant to commit to any all-encompassing reductive psychological or clinical interpretation of abduction claims. At this advanced age I no longer reach so reflexively for the diagnostic manual. I do not think there is enough concrete objective evidence to make such a commitment.

So much of what passes for scientific “explanation” in specific abduction cases involves arguments by analogy. Abduction stories “resemble” the phenomena of sleep paralysis, Lewy body dementia, false memories, fantasy-proneness as a personality trait, psychosis-like experiences or whatever—that sort of claim. We can endlessly pull analogies to scientific or medical phenomena out of our magical hat (or out of our lower bodily orifice) to soothe our epistemic anxiety, but the proof has to be in the pudding and it isn’t there. This is true even for the famous work of Susan Clancy at Harvard which, despite the distorting spin by others who only want to use her study to clinically debunk all abduction claims (with “recovered memories” or not), is really not about UFO abduction memory claims at all. Only a few of her 50 subjects made such a claim—the rest had no

⁹ Noll, Richard. “Satanism, UFO Abductions, Historians and Clinicians: Those Who Do Not Remember the Past...” *Dissociation* 2 (4), December 1989, pp. 251-253.

https://www.academia.edu/6400906/_Satanism_UFO_abductions_historians_and_clinicians_Those_who_do_not_remember_the_past_Dissociation_1989_December_2_1_251_254

¹⁰ Bullard, Thomas E. *The Myth and Mystery of UFOs*. Lawrence, Kansas: The University Press of Kansas, 2010.

such memories and just arrived at that conclusion that they had been abducted via a process of causal attribution and confirmation bias based on a variety of personal problems and cultural factors.¹¹ Although such general speculation makes us feel secure in the solidity of our scientific worldview (especially if the scientific claim comes from someone at Harvard) and can generate hypotheses for possible empirical or experimental study of individual cases, actual objective evidence of abduction for specific cases seems to be lacking (and please, if someone knows different, please correct me if I am wrong). There is no reliable objective data one way or another. And there is hardly any connection to UFOs at all.

But I do not believe, as abduction “experiencers” want us to believe, that abduction claims are to be regarded as *sui generis*, either. We can generate reductive hypotheses as long as we can also follow through with testing them in individual cases. I know some have tried and found negative results, especially when the “alien implant” or whatever seems to vanish when the time comes for examination. And so until the time comes when the subjective data of abduction claims is linked to truly objective data I firmly believe the proper domain of research on abduction claims would be folklore or religious studies, especially comparative religion, not ufology. Some scholars in comparative religion take this *sui generis* approach with respect to mystical/spiritual/religious/paranormal experiences while still combining it with efforts at comparative narrative analysis, a hermeneutical gesture. As scholar of comparative religion Jeffrey Kripal has argued, claims of experiences of the mystical and the paranormal are about narratives of personal meaning.¹² So too are claims of alien abductions. This approach works well in the humanities, and I am sympathetic to it in those contexts, but not in the sciences. Not even in psychology, which has enormous scientific problems with respect to weak methodologies (including an overdependence on rating scales), the incorrect use and interpretation of statistics and of course low rates of replication studies to verify the claims of others (the infamous “replication crisis” that research psychologists acknowledge but are happy to ignore as they go about their work).

When Science and Religion (writ large) cannot integrate an event into their worldviews they use psychiatry and psychology as their go-to default explanation. As a psychologist, an “insider,” I have often marveled at the undeserved respect that “outsiders” have for the scientific basis of psychiatry and psychology. “Outsiders” are mostly unaware of the significant lack of scientific solidity of most of the psychological constructs and methodologies in psychiatry and psychology. I would hate to see ufology repeat the errors of psychiatry and psychology by using concepts and methods borrowed from these disciplines that will never, ever, reduce an “experience” into an “event.” The use of ratings scales in psychiatry, a method borrowed from psychology circa 1950, has still not correlated regular patterns of “experience” with objective physiological “events.”

Using surveys or rating scales as affectations of objectivity in the study of subjective data (like alien abductions) will yield no new objective scientific knowledge. They haven’t in psychiatry and clinical psychology, which are both heavily dependent upon them for abstract psychological constructs like “depression.” What is depression, really? Certainly, the physical suffering is objectively real. But clinicians have a tough time agreeing someone has a diagnosis of a DSM5

¹¹ Clancy, Susan A. *Abducted: How People Come to Believe They Were Kidnapped By Aliens*. Cambridge, Mass.: Harvard University Press, 2005.

¹² Kripal, Jeffrey J. *Comparing Religions*. New York: Wiley-Blackwell, 2014.

major depressive episode, with interrater reliability studies conducted by the American Psychiatric Association itself as putting the kappa at a very low .28. Verifying an individual is currently claiming to have a subjective experience we would call depression is obviously easier than verifying someone's claim of a recovered memory of an alien abduction. We have objective affect and behavioral data to consider along with the subjective data of claimed symptoms. But in nomothetic research it is not so simple. Rating scales constrain the definition of the relevant psychological attribute or construct under study. There is no objective biological test for depression as there is for, say, diabetes, that can be used to identify subjects for inclusion in a depression study. Depression can only be defined by more than 200 different rating scales that all differ slightly in their clinical vision of depression. Ninety percent of the time the field falls back on the Hamilton scale that was devised by Max Hamilton in 1960, a respected clinician who himself claimed that rating scales serve a temporary practical purpose as a way of grading or sorting data but which are not good tools for the generation of new knowledge. The other rating scales in use are treated as if they are interchangeable with the Hamilton scale. They are not. The incongruity of these dependent measures may be playing a role in the lack of therapeutic efficacy of drugs produced by pharmaceutical companies who must use such a variety of such rating scales to select subjects in clinical trials.¹³

The reliance on depression rating scales in psychiatry and psychology--fields long familiar with studying anomalous subjective experiences – has not led to advances in knowledge about its presumed underlying objective reality ("true" depression as a biological reflective latent variable). The study of "experience" via rating scales has not led to confirmation of "events." Rating scales are an ever-present nightmare for clinical research in psychopathology in general, and their application to the study of experiences such as abduction claims have not and will not yield information about the reality of the phenomenon. Rating scales for anomalous experiences such as alien abductions or even altered states of consciousness in general are of limited usefulness and will not add to the objective knowledge base of ufology. Rating scales and surveys cannot substitute for some sort of objective data that can be verified in association with alien abduction cases. Consistencies found in data from rating scales of alien abduction experiences will never confirm the objective reality of the events. I simply conclude at the moment that concrete objective evidence in specific abduction cases is lacking to allow for any firm determination of a reductive chain of causation. I therefore also argue that surveys or ratings scales that purport to assess the varieties of abduction experiences are probably a waste of time and would keep ufology diverted away from more promising pursuits.

Final Thoughts--and Worries

I admit I am a novice when it comes to the field of ufology. I have been trying to educate myself in the past decade about the history and research in the field and became an early member of the Scientific Coalition for UAP Studies. But what I witness in the UFO community disturbs me. It reminds me of the excesses in the 1980s and 1990s fueled by a psychoanalytic prioritization of subjective data over objective data. I have never attended a MUFON conference, for example, because I see from the content of the presentations that they are tilted toward the subjective data of abduction claims (often in the absence of UFOs) and they remind me too much of the heated enthusiasm for paranoid fantasies that I witnessed at the MPD conferences that were held in the

¹³ Fried, E.I., Flake, J.K. & Robinaugh, D.J. "Revisiting the theoretical and methodological foundations of depression measurement." *Nature Reviews in Psychology* (2022). <https://doi.org/10.1038/s44159-022-00050-2>

1980s and which continue today. Budd Hopkins, David Jacobs, John Mack, and especially Whitley Strieber and Steven Greer, are the reigning gods of the gap for “experiencers” just as Freud still is for the currently active “recovered memory” crowd. They all prioritized and even valorized subjective data over objective data, and that is/was their tragic flaw. I believe collecting and studying abduction claims is valid for an understanding of human nature and how idiosyncratic hermeneutics leads to various schemes of personal meaning and significance for individuals. But for me the lesson I learned during the psychoanalytic era was that when a scientific self of subjectivity is to be prioritized over a scientific self of objectivity the only path is a maze of endless speculation and paranoia, and sometimes it leads to destructive results.

(All web articles accessed on December 15, 2022.)

The UFO Testimony Reliability from 2000 GEIPAN Reports

Xavier Passot

Abstract: The author (1), who was the head of GEIPAN¹ from mid-2011 to 2015, describes his personal path starting from the systematic processing of UFO sighting reports leading to a qualification of the human testimony. UFO sighting reports are considered here as measure points of an unknown phenomenon; as with physical measures, human testimony is subject to some errors that the author tries to characterize. The question finally discussed is how to consider the unexplained cases, so called outliers in other sciences.

Keywords: UFO, Testimony, GEIPAN, Unknown phenomenon, Outlier

Entering the UFO World

The common image of the UFO world is a collection of strange cases, still unexplained, supposed to be from an extraordinary origin. The reality that any determined ufologist can discover when starting to work on the large number of ordinary sighting reports is very different.

When starting my work in GEIPAN, I found hundreds of pending reports, most of them being commonplace. My predecessors were inclined to prioritize the apparently stranger reports, leaving the simplest cases lower in the stack. Because I wanted to send to the witnesses the investigation conclusions within a reasonable time, and to reduce the stack of reports, I decided on a systematic processing of the stack without considering the strangeness of the sighting reports. This “management decision” was in fact the choice of the scientific method to process a collection of measures: this approach of considering all samples of a phenomenon, without selection, is the most appropriate; processing only the strangest cannot lead to any relevant conclusion about the global phenomenon.

Explained UFO Cases to Calibrate the Human Testimony

Some explained UFO sighting reports really changed my mind because the witnesses reports were drastically different from the reality, a reality which is well known in these perfectly identified cases. I will describe only three hereafter, but there are hundreds.

Overflowed by 30 space shuttles at low altitude²

The young witness tells that, during an August Saturday night, he saw 30 orange shining shuttles silently overflying his village at low altitude for several minutes. He had the time to take quite a good video from his smartphone. He distinguishes many details: a dark brown structure with red and yellow lights. Later, he will add to his report a detailed drawing of a vessel quite similar to those from science fiction movies.

The investigation was quite easy: thanks to the video which displays only shining orange dots sliding in the sky, the assumption was that he clearly saw Chinese lanterns, following the wind in a direction consistent with the wind measured in a nearby meteorological station. A private

1 GEIPAN: groupe d'études et d'information sur les phénomènes aérospatiaux non identifiés (Unidentified Aerospace Phenomena Study Group)

2 In the GEIPAN database: Tenteling (57) 29.08.2010 (Search Tenteling as a keyword)

investigator later found that a wedding was celebrated simultaneously in the village, and they launched numerous Chinese lanterns.

This perfectly identified case (class A in the GEIPAN nomenclature) demonstrates that the interpretation of an ambiguous stimulus by the human mind can sometimes be very far from reality. Of course, in this extreme case, the witness over-interpreted the scene, probably because he was an UFO enthusiast. Most of the witnesses of such flying lanterns describe simply “flying lights,” some others will describe small flying saucers in squadron or dark spaceships with lights; another remarkable case mentions flying metallic monsters.³

A case of mass sighting: Fireball on November 11, 1980⁴

This kind of case is quite common: a big fireball observed by thousands of witnesses. Ufologists despise these kind of cases, often used by skeptics to discredit the witnesses, but they should study the numerous sighting reports. The multiple reports of the observation of the same identified phenomenon offer a perfect tool to calibrate the human witness. The contents of the reports provide the following:

- several different colors are mentioned (green, red, purple, white, pink, blue ...). This could be explained by the real succession of colors during the fireball reentry and by physiological differences in the witness eyes when observing a very bright light
- the distance estimate varies from 30 meters to 2 km (very far from the real altitude of fireballs: 20 to 30 km)
- the moving direction estimate is very approximate: more or less 45°; some reports indicate inverse directions! (a lateralization problem or a bad interpretation of the questionnaire?)
- the sighting time estimate varies from 2 seconds to 2 minutes (not exceeding one minute in reality)

We have to conclude in this case that the human testimony cannot be considered as very accurate; however, all these witnesses were sincere, and most of them have a high level of education. The good question when considering a UFO case is: “What really happened ?” The processing of statistics is surely not a good approach because every witness is subject to some illusion, and some illusions are the same for everybody e.g., distance and size estimation of a bright light in the sky, and time duration of an impressive phenomenon; this creates some bias which cannot be quantified. The results of statistics will only give a mean value and distribution of the values, but it will be very far from the reality. The psychology of visual perception can help calibrate those sighting reports as a kind of “reverse transfer function” but is, of course, not reliable.

The human witness cannot be considered as a good recording instrument, although his testimony is precious: yes, something happened in the sky this day, at this time approximately, it was roughly moving from here to there, it was very bright and fast, and could be seen from a large area like that. But one cannot assert more than that! Colors, size, distance, shape should not be considered. The error margin is so wide.

³ In the GEIPAN database: PAYNS (10) 19.05.2012 (Search Payns as a keyword)

⁴ In the GEIPAN database: RENTREE ATMOSPHERIQUE — NATIONAL (FR) 11.11.1980 (Search 11.11.1980 as a keyword)

*Light plane or alien spacecraft?*⁵

Here is another very puzzling case because it opposes a sighting report of a very strange flying craft observed by a qualified driver during his working time, with a strong set of proof that a light plane was flying precisely there at the time.

The witness was driving a van on a highway, in the outer Paris suburbs; he saw a large motionless flying machine with flashing lights, at a low altitude, hundreds of meters away from the side of the road. He wrote a very detailed report very shortly after the event.

The GEIPAN found quite quickly that simultaneously a touring plane was training for night landings on the small airfield along the highway. As the witness didn't approve this explanation, GEIPAN was required to go further: a very skilled investigator was assigned on the case and then made an impressive job: he got the GPS report log of the van trajectory (which was available because it was a duty van), and the corresponding GPS report of the plane; then he built a dynamic simulation of the view of the plane from the van driver: the proof was established that the plane was at the same place as the flying craft described by the witness; it was seen apparently stationary because it was flying in the opposite direction of the van, as rotating around a virtual pivot.

The most puzzling finding in this case, which is the most documented case I've seen in GEIPAN, is the comparison of the reality, as simulated from the plane shape and its GPS path, and the witness report which was put on the same virtual model as hereafter:

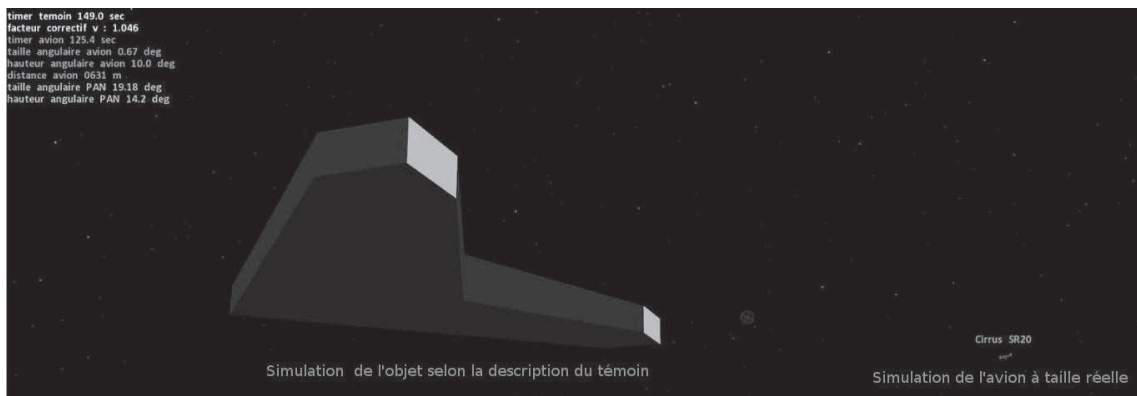


Figure 1: simulation of the object as described by the witness, and the real plane

The flying craft (left part of the picture) is described 30 times bigger than the plane (Cirrus, lower right), the lights are rectangular instead of circular and so on. This terrible comparison is not so surprising: the “Rising Moon test” gives the same results: ask a friend how many fingers he needs, arms outstretched, to hide the rising moon, when it seems so big; the usual reply is about 5 fingers (the hand) and some people say, “2 hands” (15° angle), which corresponds to a ratio of 30 compared to the real angular size of the moon (30’).

⁵ In the GEIPAN database: Silly-le-long (60) 31-05-2015 (Search Silly as a keyword)

The human witness overestimates the size of most of the scenes he reports, especially if he was impressed, as if he used a telephoto-lens, but he forgets it when he writes the report! That's why you are mostly disappointed by the poor snapshot you get from your smartphone when observing an impressive phenomenon such as the sunset or fireworks.

Testis Unus, Testis Nullus

As many professionals of human testimony (lawyers, policemen, psychologists, insurers), we have to accept the fact that the human testimony is not fully reliable. The law of the ancient Roman empire was *Testis unus, testis nullus*, which means: Unique witness means no witness; the practical implication was that a judge could not convict a suspect from only one testimony. In all seriousness, it was more to avoid false testimonies than to avoid visual-perception illusions; in our UFO world, we also have to consider the possibility of false testimony (even if it is very rare), as well as hallucinations or the statements of a mythomaniac.

In any case, we should never consider a unique testimony sufficient to certify the reality of the report of a very strange phenomenon.

Which Reality Hidden Behind a Heartfelt Testimony?

In many cases, we can be sure of the sincerity of a testimony, but we know now that it doesn't accurately describe the reality. What can we infer from a good testimony? What information can we take literally? What is to be corrected, and what should we forget? Does the "reverse transfer function" exist?

The long experience of thousands of sighting reports investigations and the results of research in psychology (2), in vision, perception, memory, etc. makes it possible to affirm the following:

- Above 20 m, estimating the distance of an unknown object is impossible for any human being using only his eyes, especially in the dark. It means that every distance estimation of an unknown object or light is, if not false, random, and consequently, the size and speed estimates of the object are random: this basic rule depreciates thousands of UFO reports based on the extraordinary size and speed of the related phenomena.
- Witnesses always overestimate the angular size of a surprising phenomenon, with a ratio from 3 to 30.
- The duration estimation of a surprising scene is very subjective.
- Any interpretation of the phenomenon should be considered with caution: as an example, a statement like: "I've seen 3 moving lights" can be taken literally; "I've seen a flying triangle" should not be taken literally, and considered as being probably "3 lights," and of course the same conclusion for "I've seen a dark triangular spacecraft with a lamp at each point, flying silently 100 m high" should be translated as only: "I've seen 3 moving lights."
- The long-term memory of an extraordinary scene is the result of many very complex process in the brain, which could drastically alter the real memory (3,4).

The Destabilizing Experience of Observing a UFO

When interviewing a witness, you are impressed with the power of psychological shock some witnesses suffered during his observation; in some cases, it looks like a religious conversion or a mystical vision. The on-site interview by the investigator is sometimes a very strong encounter.

However, the witness can only tell or repeat what he has in his mind, in his memory; the emotion he had could emphasize the scene he observed.

Since 2013, GEIPAN uses a specific method to interview the witnesses: the “cognitive interview” which is a quite long non-directive interview, including some repetitions. This method has been proved to help the witness to remind some details of the events. However, the on-site interviews are requested by GEIPAN only when the remote investigation has not given any results: this is a check list of the usual misinterpretations: Chinese lanterns, moon, satellites, aircraft, fireballs which can be performed with the modern tools of meteorology, astronomy, radars ... This remote investigation is very often successful to explain the sighting reports of simple lights in the sky.

The confrontation between the witness’s emotion and the proposed reality found after investigation is confusing: the witness sometimes feels he is considered a liar or a mad person, he believes that the truth is hidden. The on-site investigator is supposed to only collect information, not to give an explanation; the final conclusion is sent directly by GEIPAN, without preparing the witness; the knowledge of the results of the investigation, in a short mail, is sometimes brutal for the witness who believes he has seen a very extraordinary phenomenon. In some extreme cases, I personally called the witness to tell him the result of the investigation; this difficult discussion has always been very positive; this should be done in every case where the testimony is far from the proposed reality.

The Perfect UFO Sighting Report

Now that we have made the assertion that single testimony is weak, what should the perfect UFO sighting report be?

A testimony can bring many very interesting statements if correlated from other sources:

- photographs or videos
- other testimonies from distinct witnesses, preferably independent from the main witnesses
- recordings from automatic systems: surveillance cameras, radars, fireballs or astronomical survey...

The perfect UFO sighting report should include several testimonies and photos or videos. This is the option taken by GEIPAN to classify a sighting report in the upper class D2: it requires at least two independent testimonies and a photograph or video. These conditions are not so stringent (a well prepared hoax could pass the filter!), but are hard enough to reduce today to null the number of cases in this class.

Until now, any investigated case with several witnesses and a photo or video has been identified.

GEIPAN investigators give to each sighting report a consistency value, between 0 and 1; this value has the same meaning as the margin of error in physical measures. The “perfect UFO sighting report” should have the value of 1, which means a very small margin of error.

The famous French close-encounters reports (e.g., Valensole 1965, Trans-en-Provence 1981, “L’amarante” Laxou 1982) are far from a high-consistency level: a lone witness, no photo nor video. The traces on the ground can be contested because they could have been there before the event.

The History of the GEIPAN “D Cases”

In the GEIPAN classification, from A as fully explained, B as probably explained, C as insufficient consistency, to D as unidentified, the last class is of course the most scrutinized. The meaning of this D class evolved during the 40 years of the GEIPAN: in the early GEIPAN, it was meaning “deserves a thorough investigation”; then it meant “unidentified after investigation”; in 2000, this class was including old cases still not investigated and some very strange cases with various levels of consistency. It was decided to split the D class into D1 for “unidentified with a moderate consistency” and D2 for “very high consistency,” without knowing if there were some existing D cases eligible for D2.

From 2014, the old D cases were carefully, and slowly, revisited: most of them could be explained thanks to the modern tools of cartography, meteorology, and astronomy, and using the last results of the psychology of the visual perception, many were placed in C class because of too weak a consistency, and some stayed in the D class but in the D1 sub-class. The revisiting job is not achieved, 70 D cases are not yet selected for D1 or D2 class. Even if the revisiting job is not achieved, I do not think that some existing D case could be classified as D2.

On one hand, the number of old D cases decreased from 2014 because of this revisiting process, on the other hand, the total number of cases increased dramatically from 2007 because of the use of the Internet, which facilitates the submission of sighting reports. (the total number of published reports since 1977 was 1,200 in 2011, 2,200 in 2016, and 3,000 in 2022); consequently, the ratio between the decreasing number of D and D1 cases and the growing number of all cases lowered drastically, falling from 22% in 2011 to 3% today. In the recent cases, from 2010, the ratio of D1 cases is close to 2%.

Let us remind that any D unidentified case, even D2, means only that GEIPAN does not know what the origin of the observed phenomenon was; the assumption of an alien visit is an option among numerous others, but the experience with old, revisited D cases shows that “unidentified” could mean “not yet identified” or “distorted or emphatic testimony,” much more so than “alien visit.”

The Global UFO Phenomenon

If we consider the global UFO phenomenon as a set of measures, each one being subject to some error in the measure, some UFO reports are considered as abnormal (outliers) because of relating outstanding facts; they lead to extra investigations or extraordinary assumptions. But the greater you consider the margin of error of a testimony, the less you’ll find abnormal reports/measures.

Many very strange UFO sighting reports, when submitted to this filter, appeared to be only the result of visual illusions or enthusiastic : the outstanding related fact is no more than an outstanding testimony.

Acknowledgments: This article has been written from my experience with the GEIPAN team. I wish to heartfully thank my predecessors and the acting team, and the associated private investigators who told me about their long practical experience of UFO case investigations.

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Data are Worth a Thousand Accounts

Julio Plaza del Olmo

Abstract: Witness testimonies are at the core of every UFO report. The descriptions contained in them, however, are not directly related to the UFO features. Instead, they describe what the witness perceived, interpreted, and is able to recall at the time of reporting. It is a subjective account of what he experienced. Therefore, accounts must be checked against objective data to discriminate what parts can be taken as is, and what parts must be reviewed and reinterpreted.

Keywords: Data analysis, Canary Islands, Hammaguir, Pentagon UFO videos, Infrared camera

Introduction

The huge majority of UFO cases are based on witnesses' accounts. Witnesses usually recall impressive speeds or accelerations, impossible maneuvers, varying sizes, colors, light intensities, either at close or far away distances...

But what they are describing are not necessarily the actual features of a UFO. Several stages can be defined to describe the process of generation of any UFO report, basically: Apparition of a stimulus, transmission, perception, and communication. From the moment a visual stimulus appears somewhere either in the sky or near the ground, its light first has to travel towards the witness's position while being affected by atmospheric transmission, clouds, obstacles... Then it has to be perceived by the witness's senses, and interpreted by the brain. Sometime later, which can range from hours to days, months or even years, the witness recalls his observation and reports it to somebody.

Even if the original stimulus was of mundane origin, the final account reflected in a UFO report has passed through different factors. Factors external to the observer can be objectively identified and considered (e.g., atmospheric transmission). But factors internal to the observer are of a subjective nature: limits of the senses, optical illusions, brain interpretation, emotions during sighting (surprise, shock, fear...). Even during the communication process, the witness can stress details he or she (subjectively) considers important, while leaving out details he may be aware of, but does not consider relevant.

It is not the purpose of this introduction to make an extensive description or classification of all kind phenomena that can affect the final report of a UFO sighting, but to clearly point out that any report that an investigator has to deal with, is an account of what a witness did perceive, interpret, and was finally able to communicate. How far or close to reality the description is, is highly variable and dependent on each witness.

Humans as Measuring Devices

Let us consider the sightings in the Canary Islands on June 22, 1976. On that date, a series of submarine-launched Poseidon missiles in the Atlantic^[1] left an expanding smoke trail illuminated by the setting sun. The phenomenon had multiple witnesses in the whole archipelago, and triggered a UFO investigation by the Spanish Air Force.^[2] Most of the witnesses described some kind of light increasing in size and then vanishing. Some considered it was close to them, over the ground,

or approaching. But the most surprising description involved two beings standing inside a translucent sphere. Figure 1 reproduces a picture taken of the event, and the drawing made by the witness.

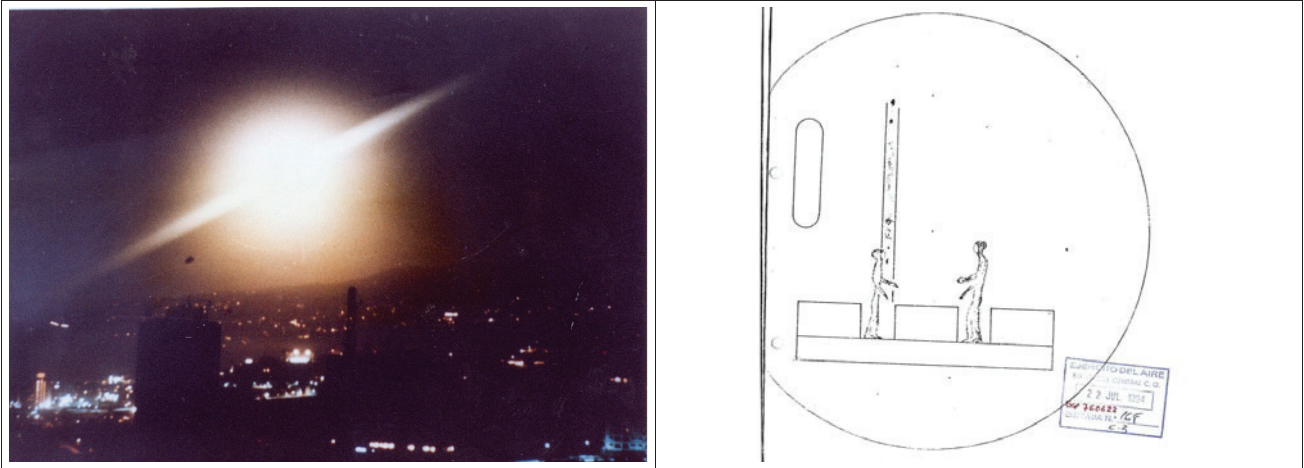


Figure 1: Left, photograph taken during the June 22, 1976, UFO sighting in the Canary Islands. (V.J. Ballester Olmos files). Right, drawing done by one witness of the phenomenon. Taken from UFO File 760622 (Spanish Air Force).^[2]

We can see the different perceptions many witnesses had for the same stimulus. Many gave rather reasonable descriptions (reasonable respect to what really happened), but a few gave shocking ones. Maybe in ‘multiple witnesses cases’ there is way to decide what sounds reasonable and what does not – start with what the majority says, and check how accurate it is.

It is not that easy when dealing with a ‘few witnesses cases’ – or even ‘single witness cases’: is his/her description a reasonable one or radically different from reality? There are very few other accounts to compare – or none at all.

In our previous example, we can notice that some witnesses apparently gave information that may be quantified. Distance, position, speed, size, time of the day, duration... are examples of basic quantitative data that may allow obtaining the dynamic behavior of whatever was seen. Analysis of these data should help in validating the account: Is the perceived apparent size compatible with the perceived distance and height above the ground? Does the perceived trajectory match any known object? Was there any stimulus present that may match these perceptions at the time of the sighting? After such analysis and validation, we can have a better idea on how reasonable the account was.

Unfortunately, these data are sometimes missing, poorly estimated or only qualitatively expressed, if they are given at all. It is not unusual to read things like “*a fast moving object*,” which indeed is of no help: How fast is “*fast*”? Even the date and time are sometimes dubious!

Let us look at a different example. On April 22, 1966, there was a well-observed and documented launch of a Rubis rocket from Hammaguir. Its payload included barium and copper oxide charges to study the upper atmosphere, and produced several sightings all across Europe, from southern Spain to Austria.^[3] Out of 31 accounts, only 15 reported the position of the phenomenon. But only

those reporting an actual measurement or a relative position to a known star, were accurate enough. Estimates of an absolute value of elevation varied significantly. Azimuth estimates were only roughly correct, but mostly informed as a broad cardinal point direction (“*South*,” “*Southwest*”).

Humans as measuring devices are simply terrible. Of course, experience serves as some sort of calibration in specific circumstances, and educated guesses can be fairly correct, albeit not always. Distances, speeds, sizes, positions, etc., are variables that depend on what the observer expects to see, and what his or her brain is trying to identify. An airline pilot may expect to see other planes in the air, so parameters like size, speed, or altitude of any light will be interpreted on this basis. When such a light does not behave like a plane should, surprise arises and results in Venus being misidentified,^[4] or distant lights on the ground forcing the landing of an airliner.^[5]

But cases are eventually solved, and the original stimulus can be identified despite the lack of reliable data within the accounts. Accounts cannot be taken at face value, but that does not mean they have to be dismissed right away. They must be checked by obtaining data from an independent source. Thanks to the development in technology, we have now easy access to tools that can show us land maps, sky maps, airline radar tracks, databases of rocket launches, satellite tracking software... very valuable tools to obtain independent data to check against an account. Only after such checks, can we know what parts of a testimony can be taken as-is, and which others should be reinterpreted.

Technology Registering UFOs

Humans cannot perform accurately as a measuring device. Scientists know this very well, as any laboratory is fully equipped with expensive devices to measure tiny electric currents, images of extremely small particles, spectrometers to register wavelengths invisible to human eyes... Any observation or experiment needs dedicated equipment.

There is no dedicated equipment for the observation of UFOs; but there are at least cases in which the “witness” happened to be some kind of technological device. I am mostly referring here about radar and imaging devices, but I would like to focus on the latter.

Direct images of the phenomenon are not affected by the subjectivity of a witness. Thus, it seems reasonable to use imaging devices to systematically obtain data that can be studied afterwards. The Hessdalen Project^[6] is somewhat based on this approach. An automatic monitoring station has been running since 1998 collecting images. These are later reviewed and classified to discard false alarms (known phenomena like birds, insects, planes...), to leave only the apparent anomalies.

Another similar initiative has recently been put forward by Avi Loeb with the Galileo Project for “*the systematic search for evidence of extraterrestrial technological artifacts.*”^[7] This project pretends to combine high-resolution imaging systems with different types of radar.

However, the images still have to go through the brain of the one watching them. If the classification is done based on the viewer interpretation of the image, the subjective factor comes into play again and the discrimination becomes biased by the human using the technology.

It has been suggested to use Artificial Intelligence and Deep Learning^[7,8] to do such discrimination. This kind of algorithm has grown in interest in the last years with potential applications in many different fields. But these techniques are also limited to how a human is able to train such algorithms, which again, creates a bias. So far after 70 years, no features unique to UFOs have been proved, and thus it becomes impossible to train a neuronal network to be able to recognize and classify an event (e.g., image, footage, radar echo...) as such. It might be trained to classify *known* phenomena (birds, planes, stars, bolides...) and then leave other unclassified phenomena pending further study. But in any case, that is no warranty of it actually being an anomaly of interest.

As a comparison, we have to mention the Spanish Meteor and Fireball Network (SPMN).^[9] It is a network of monitoring all-sky cameras. That is basically what the Galileo Project intends to do, with the difference that SPMN searches for bolides and meteors, not UFOs. Very frequently, they are caught by the cameras and basic studies like trajectory reconstruction are routinely done.^[10] To this day, there is no indication that they have detected any UFO.

The Pentagon UFO Videos

In 2017, three videos were leaked to the public that showed infrared footage of unidentified objects, the so-called Pentagon UFO videos.^[11] In 2020 the DoD officially admitted they were obtained during training exercises in 2004 and 2015 by US Navy F-18 fighters.^[12]

The fighters were equipped with an Advanced Targeting Forward Looking InfraRed (ATFLIR) system. It is to expect that such a system is able to gather huge amounts of data as well as communicate and share data with the other systems present in the plane. Azimuth, elevation, slant range, speed, attitude, heading, field of view, radar and IR signatures, IR irradiation on the sensors, state of the systems (searching, tracking, idle, settings...). There are plenty of parameters useful to understand what the image actually shows.

Sure, if we could have access to so many good quality data, the Pentagon videos would be easier to analyze. What has actually been leaked is only the 8-bit grayscale footage in a compressed algorithm suitable for internet streaming and reproduction in a home PC. Not a great deal, especially if someone wants to present it as the most compelling evidence of a UFO ever.

Even if this IR system is a *state-of-the-art* device, it has its limitations. In fact, if we go back in time, it is easy to find similar quotes praising the – back then – “*most sophisticated systems*” to remark how compelling the evidence was. Technology improves its limits with time, but UFOs always appear at the limits of the detection systems. A very good reason to analyze data, instead of interpreting images.

Fortunately, along with the image, the display was also recorded and shows some basic information, as shown in Figure 2. The data have a higher uncertainty than the raw data would have; but are still enough to do things such as the reconstruction of the trajectory.

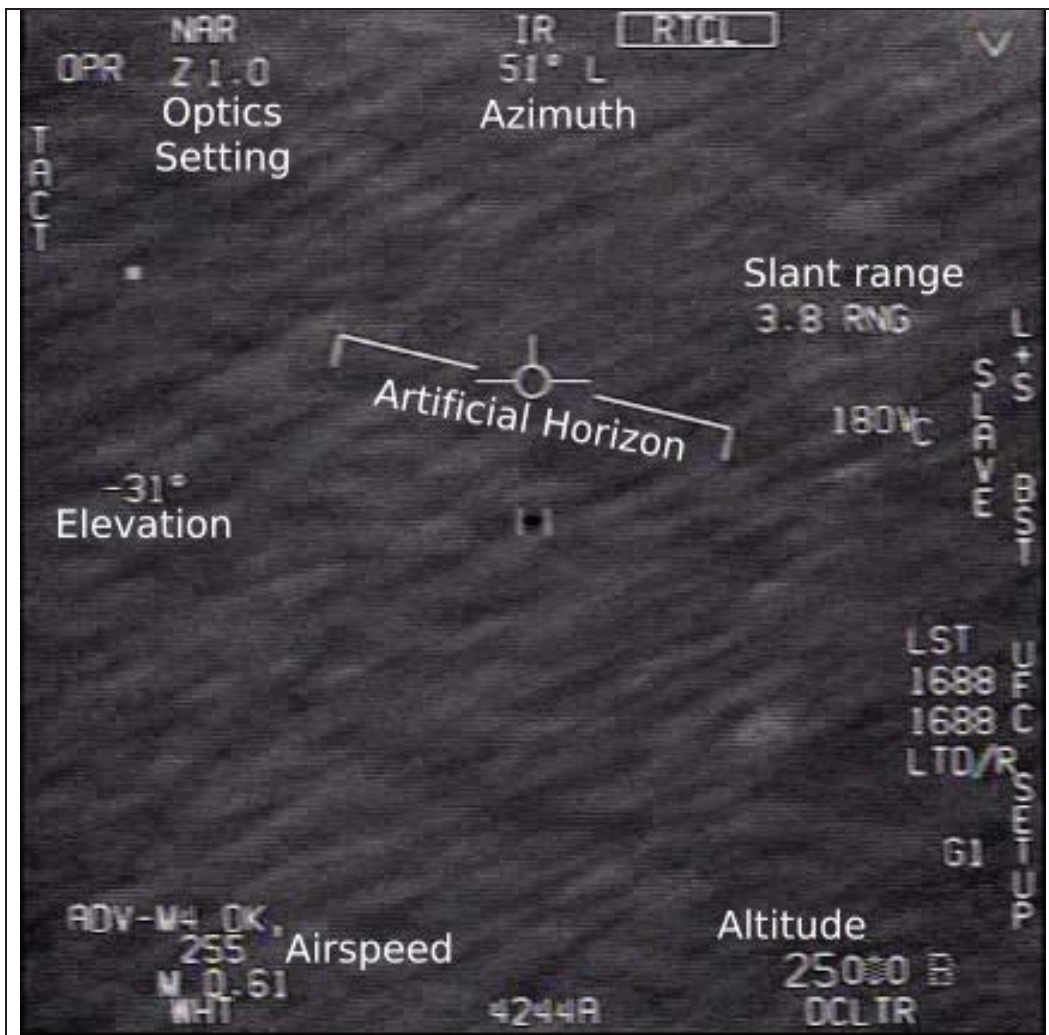


Figure 2: Frame from the “Go Fast” video, and description of some of the information available.

Go Fast

The “Go Fast” video was recorded in January 2015, off the East coast of the US. If we let our brain interpret the image, it apparently shows a fast object moving near the surface of the sea. The object itself is only 6 to 8 pixels wide, with no features to allow identification just by looking at it.

With simple trigonometrical relationships, it is easy to calculate the actual altitude of the target. It is not near the surface, but halfway, about 13,500 feet over the surface level during the whole video. A retired F-16 pilot (and now youtuber) has argued that the displayed slant range is not reliable,^[13] so the calculated altitude cannot be valid. His visual interpretation, based on his experience, is again that of a fast object near sea level. However, no technical explanation has been given as to why the range would not be reliable. It is only his subjective interpretation against a calculation that consistently locates the object at a constant altitude throughout the whole video, not at random or illogical values despite the range and tracking angles changing every second.

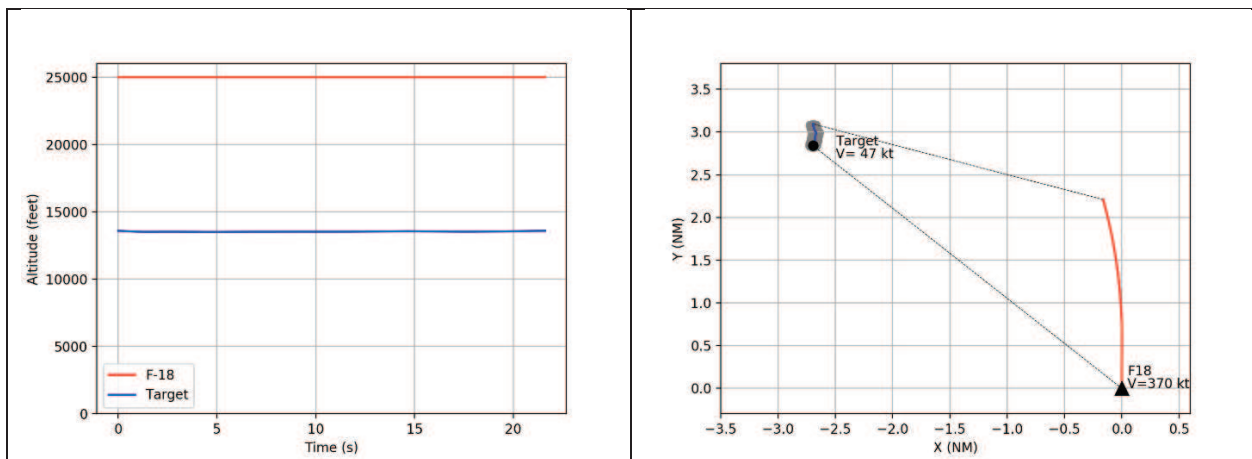


Figure 3: Altitude (left) and trajectory (right) of the “Go Fast” target. Data show it is a slow moving object at a constant altitude of 13,500 feet. The gray zone in the trajectory shows the uncertainty in the position of the target.

The indicated airspeed of 0.6 Mach at 25,000 feet corresponds to 370 knots of true airspeed. This airspeed would still need to be corrected by the wind speed – in magnitude and direction – which is unknown. But taking 370 kt as the reference, the trajectory of the target can be computed, and also its speed. The final value is much lower than was apparent by just looking at the video (Figure 3).

If the brain interprets the image as an object near the surface, the target appears to move at high speed. Analysis of data shows it is only an apparent effect due to parallax. But more importantly, once the real properties are known, a serious discussion can start about the identification of the object. The conclusion would be much different if we stuck to the “fast object” interpretation, falsified by the data.

FLIR1

The video called “*FLIR1*” was recorded on November 14, 2004, near San Diego, by a fighter from the Carrier Strike Group 11 that included the USS Nimitz. It shows a featureless target being tracked by the fighter’s ATFLIR pod. Only in the very last second of the video, the target disappears moving to the left of the image.

To the occasional, unaware, first-time viewer, nothing impressive seems to be happening.

But this video was recorded in a context that can bias the viewer: on the day of the recording, pilots reported having an encounter with a “tic-tac”-shaped UFO, maneuvering with high speeds and accelerations. After returning to the carrier, another plane, equipped with the ATFLIR system, was later able to obtain the footage. Despite these previously reported maneuvers not being seen in the video, a direct connection is made with those accounts. It is then claimed that the recorded object was the same, and that the last second of the footage showed one of those high-acceleration maneuvers that the IR system was unable to track.

A complex analysis was done only on that last second of the video from the biased standpoint that the object *had to* show a high acceleration *as it had been previously reported*, ignoring the previous 70 seconds of video in which nothing happens. From the initial assumption that the object “*started from rest*” respect to the F-18 in that final second, the conclusion was that it accelerated at 76g.^[14]

An unbiased examination of the available data shows the object in constant motion. Azimuth and elevation are changing during the entire video. It was not at rest with respect to the F-18. Also, it is easily observed that the tracking system was unstable whenever the operator switched the optics of the IR camera. Every time, the object would drift slightly to the left, until the lock was reacquired, and the object centered on the screen again. See Figure 4 for an example in the last moments of the video. The very last second shows the optics were changed twice very quickly.^[15]

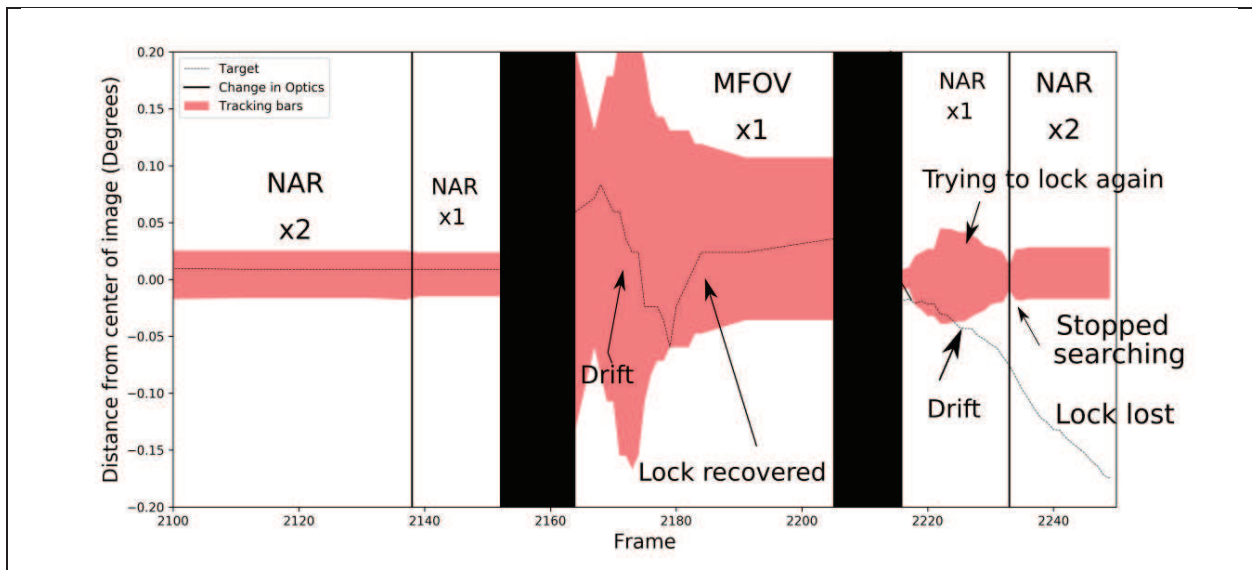


Figure 4: Position of the target during the last seconds of the video. The change in the optical settings affects the tracking. The system needs to regain the lock and re-center the target. Thick black lines indicate the change in the optical system, which involved physical change of lenses and results in the system being blind for some frames. The thin lines reflect only a change in the digital zoom.

The motion of the target can be reconstructed for the whole video, and shows a trajectory compatible to an object moving in a straight line with a left component with respect to the fighter. The lack of a slant range value prevents the obtaining of the speed of the target, but for some reasonable ranges – about 30 NM – it is compatible with those of small jets.

Incidentally, the co-pilot who operated the IR systems said the object was first detected by radar at about 30 NM. However, there is no radar data available to check this information. We can only check that this value would give a speed within the flight envelope of small jets.

Figure 5 shows the reconstruction of the trajectory, starting at 30 NM of distance. The target would travel at 425 kt, and would finish at 16 NM distance from the fighter.

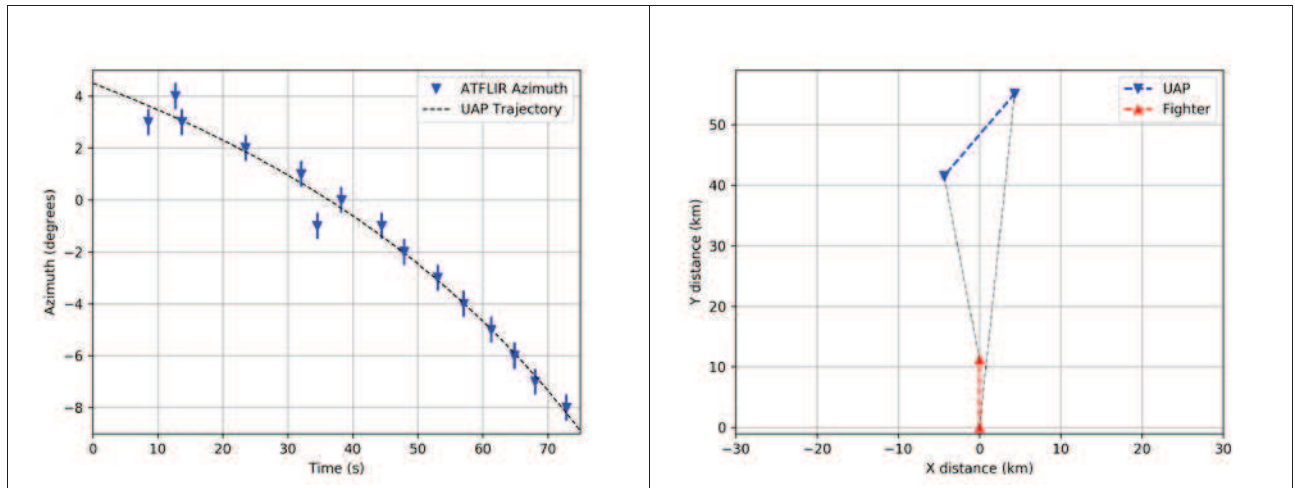


Figure 5: Reconstruction of the UFO/UAP trajectory in “FLIRI” video, based on the data of the display.

Finally, the angular speed at which the object disappeared was similar to the angular speed the object was showing during the whole video.^[15,16] All these data and analysis lead to a different conclusion, in which the IR system simply lost track of the object due to the quick changes in the optics before the system was able to reacquire the track and center the target again. Then, it drifted away from the image to the left, the direction it was originally moving. Therefore, nothing in the video is able to confirm that the object executed outstanding maneuvers.

Conclusions

As the saying goes, *an image is worth a thousand words*. In the UFO field, it may be re-worded as *data are worth a thousand accounts*. Witnesses’ testimonies are descriptions of what they experienced. That means they are not describing how a random light in the sky moved, but how they perceived it moved, and how well they are able to recall that memory.

A qualitative description of an event is affected by the interpretation by the witnesses themselves. It is not unusual that different witnesses can describe differently the same event; sometimes with striking differences. Examples were given to show that quantification of simple parameters is also inaccurate. A testimony, then, is not reliable. But that does not mean it has to be thrown away. It is the task of the investigator to find data that can confirm it, refute it, or suggest a different interpretation compatible with the data. Data must have preference over testimonies.

On the other hand, technological devices can provide reliable quantitative data. Images are the most popular ones, but even if an image may constitute a valuable piece of evidence, its plain visual interpretation is likely to introduce back subjectivity from the viewer. Similarly, giving preference to a testimony over data can lead to a biased analysis trying to force the data to confirm the account.

Good data will always be a better starting point than an account. But in the end, a good analysis can be done only as long as subjectivity is left out.

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The Objectivity of Witnesses and the Subjectivity of Testimonies

Cláudio Tsuyoshi Suenaga

Abstract: In this study, I will proceed to a critical analysis of the general reference base of the UFO problem, the testimony, seen as an authentic and indisputable cultural source, but one that presents serious distortions. One of the main points to be investigated is the exact value of the testimonies, which form the basis of the reports and, therefore, of the UFO phenomenon. Therefore, I intend to provide adequate scientific treatment of those data and factors relegated to the background by ufologists: the observational subjective parameters, the perceptual aspects, the language and the historical-cultural context of the witness, and the psychosociological variables, that is, everything that has been disparagingly called “background noise,” the “sociological refuse” despised at the expense of the “signal.”

Keywords: UFO reports, Cognitive dissonance, Disparities, Manipulations, Distortions, Perception

Subject-Object

In general, the UFO phenomenon is treated anachronistically well, but scientifically poorly, always lending itself to all kinds of manipulations and in the service of determined interests. What we have seen is the systematic exploration of the idea of extraterrestrial visitors by all-too-human organizations with very mundane purposes. The public has often been deceived and deluded about almost every aspect of it.

UFO information reaches the general public filtered and popularized through the media. The mass population and the so-called cultured layers themselves, are generally unaware of the inaccuracies transmitted to them and the interests involved, and they often accept the news as a reliable description of reality. This alleged knowledge is then taken as the model of true knowledge that is provided only to a privileged few.

UFO cases, similar to works of art, are not descriptions of reality itself, but interpretations of a reality that tell us more about the person who is expressing himself than about the reality he is referring to. They are second-hand views of the world, quite different from scientific knowledge, which describe reality itself and take away the reassuring filters of opinion, beliefs, and ideologies and leave us alone in the face of a demonstrable truth about the world.

Certainly, the appropriate scientific method can only be found, and above all applied, if, on the one hand, the data related to the object of study are systematized and, on the other, if these data are comprehended in their specific characters and distinctive elements.

In the UFO phenomenon, subject-object relationships take on new conformations. Liable to be approached by all fields of knowledge in which its unstable epistemological aspects are accentuated, interdisciplinarity is therefore mandatory, provided that from the perspective of a real integration of the disciplines, both in the human and exact sciences. The expansion of the parameters of analysis offers conditions for the understanding of its social dynamics related to a complex system of political relations in close connection with secular religious beliefs.

It is evident that this methodology is being proposed in a context of loss of epistemological confidence and ambiguities that permeate the convictions about the foundations of society and the role that is attributed to science itself. Therefore, offering answers to such inquiries presupposes feeding the debate about the function, meaning and modes of production of scientific knowledge within a context of multiple variants. The issue of interdisciplinarity emerges, in effect, from the exhaustion of certain parameters of scientificity built under the paradigm of natural sciences, which lead to a global model of science whose advance was made by a free, detached, and uncompromised observation of reality. In the new model, an approach capable of articulating the points of integration of the phenomena in social life is sought.

Ethnology of the Contacts

At this point, it must have become clear that the objects of our study are the reports of sightings, immediate contacts, and abductions, and not the flying saucers and ETs themselves, unattainable by their very nature. It is up to us to build the ethnology of the contacts, or at least of their narratives. In fact, almost all UFO reports inform us less about reality than about dominant beliefs and desires. They put a kind of screen between our eyes and what our eyes would like to perceive. Generally speaking, witnesses do not provide a rational explanation or moral justification for what they claim. When questioned, they answer only that the facts occurred exactly as they are describing, however absurd or nonsensical they may seem. The reports reflect reality to a certain extent, but almost all of them distort that reality. The challenge, for us historians, is to discern the distortions arising from a set of beliefs and to gauge the extent to which they transcend social reality.

Ufologists, for their peculiar behavior, for their role of mediation between witnesses and society, and for being largely creators of the phenomenon, although they are often unaware of it, also constitute an object of imprescriptible study. In their efforts to make sense of the UFO Phenomenon, they create their own mythology: an epic drama of individuals who seek to make sense of epic events and experiences.

There is a profusion of aspects and elements that I intend to dig into deeply and that were never studied by ufologists, either by nature, which they soon discard when not in line with their beliefs and expectations, or due to ignorance about the appropriate methods of approach, or simply because they didn't even notice them.

The method used by most ufologists, based on a desire for a quick explanation for the Phenomenon, is restricted to a limited sample, covering only those cases with possibilities of material proof in favor of the extraterrestrial hypothesis. Since even today, despite the billions spent by space agencies, no evidence of a civilization outside of Earth has been discovered, the responsibility for analyzing all the UFO documentation accumulated in the last seventy years lies with the historian and the sociologist.

Filling the Gaps

Science and ufology have different objects and objectives and require different methods. Stripping ufology of its absurdity and absurd ornaments with the application of "Occam's razor" leads us to a valid explanation based on simple and observable facts, supplemented by pure logic, as William of Occam would have advocated. The

comparative method applied to ufology provides that we must test the hypotheses with a sufficient number of cases, comparing each one with the others and with those with very particular characteristics. That is why the method adopted by ufologists is erroneous, and for the following reasons:

1. It totally excludes the psychosociological aspect that constitutes the context in which ufological reports are sustained;
2. It leads to the arbitrary constitution of a “characteristic list” (median) of cases, which will represent the UFO Phenomenon in all subsequent studies. Such a list results from a selection from the bulk of the original appearances; its criteria are predetermined in an impartial and subjective way, not being deduced from an objective analysis of the set of observations, considered as a whole;
3. It makes the propositions of the different types of reports false, totally eliminating some of them and hiding others through flawed classifications. It distributes the weight or reliability index of the observations in such a way that certain groups of witnesses are favored, although only certain types of observations correspond to those groups; and
4. It removes each observation from its context, disregards the global nature of the phenomenon, and blocks all paths of investigation of the pattern of distribution of observations and the fluctuation of the phenomenon over time; it restricts the discussion to a mere consideration of probabilities.

Ufologists try to fill the gaps in scientific thinking by appealing to audacious hypotheses and unorthodox or unconventional “methods of investigation,” such as night vigils, mediumistic trances, telepathic transmissions, etc., making these attempts exasperating and ineffective in establishing direct contacts or recurring activities.

The Set of its Manifestations

My intention has been to explore a totally different line of research, based on the idea that, in the absence of any plausible physical theory, the UFO Phenomenon can be defined only by the set of its manifestations. I consider the totality of the information reported by the witnesses and the data involved. Leaving aside any attempt to prove each case individually, a task for professional physicists, I find useless any explanation applicable only within certain limits of time and space, or within certain strict boundaries, or that relates only to a small sample of cases. Since experience has shown that there is a strong psychological component in periods of intense phenomenon activity, I have established the principle of not rejecting observations merely on the basis of their interpretation, however fantastic and extravagant it may be. In the same way that the chronicles of the 5th century described comets as “the hand of God wielding a bloody sword,” we are now confronted with fantastically distorted narratives of real and physical events. It is the duty of the social scientist to analyze the reports, separating the elements that arise from the fruit of human imagination.

It is on such bases that our methods are supported: to identify the various components of the Phenomenon and to introduce a descriptive language, examining the reports individually, from the points of view of both psychology and the social sciences; to present studies based on the most general sampling, without trying to decide between the different theories in a subjective way; on the contrary, we endeavor to outline, as clearly as possible, the pros and cons of all the hypotheses raised in order to explain the

Phenomenon; and to pave the way for a complete study on a global scale, reviewing some of the methods that could be used.

The method required to decipher and understand the logic of immediate contacts is that of social anthropology, which consists of considering reports under two aspects: on the one hand, as fantastic narratives; on the other, as an echo of experiences lived on different levels of reality. Thus, UFOs would not be from other planets, but from other planes of reality. UFO phenomenology, far from being the chaos that we could suppose if it were only the result of delusional visions, corresponds to a well-defined order and logic. The cultural materials that make up this structure reveal that behind the appearances of a wonderful science there is a set of themes and motifs that were already included in the reports of the so-called fantastic folklore. In other words, to say that behind science fiction lies folklore is just a simplified form of expression. Folk themes are not behind science fiction in the same way as ethnological extracts are. The question is much more complex than that, and it is necessary, first of all, to examine the invariable structure, behind which the conventional direction of the initiating proof appears.

Psychological Action, Political Manipulation and Social Control

With its prerogative for social history and cultural phenomena, the *Annales* magazine, founded in 1929 by Lucien Febvre, of the École Pratique des Hautes Études, allowed us to probe the substrates of individual consciences and the foundations of long-lasting rhythms, where nothing seems to change. The inflection for detecting this impalpable reality and from there extracting a whole worldview, consists of juxtaposing fragments of memories, often precarious, surrounded by a symbolic and imaginary sphere, and to try to connect them, to reconstruct an image, but according to abstract and conceptual concepts, schemes drawn from themselves, and thus to compose a picture that comes from the very base of society, that is, culture, although one cannot neglect the repercussions of material structures on mental representations, or, more broadly, the relationships between cultural phenomena and the movement of all economic and social structures, or even, to use another language, between material infrastructures and superstructures, that is, the production and reception of cultural objects.

Due to the intrinsic characteristic of camouflaging its secrets under dense layers of misinformation, legends and lies, the UFO Phenomenon has served as one of the most efficient instruments of psychological action, political manipulation, and social control. However, if there has always been a hidden interest in stimulating belief in UFOs, how do you explain the official campaign, carried out most of the time, to deny it and even ridicule it in front of the public? The answer is very simple and concerns the psychology of the masses: the more the public is persuaded to disbelieve something, the more they will tend to believe it.

The belief in ETs sustains the world of ufologists and ensures a good dose of hope that in the near future there will be a great rapture of those chosen, by a fleet of shiny spaceships. Most of them, incidentally, claim to have entered ufology in response to a kind of call or vocation comparable to a religious experience, and not a few converted to the belief after having their “vision on the road to Damascus,” in this case witnessing a UFO and having their faith justified. The belief in UFOs has given rise to pseudo-religious groups that have turned them into objects of worship, awaiting their arrival with the same enthusiasm with which the Messiah’s second coming is expected. There

is no lack of those who defend that ufology is the stage of Armageddon, where the final battle between good and evil will be fought.

Leon Festinger and His Theory of Cognitive Dissonance

The religious aspect of ufology, due to its intertwining of themes and fusion of utopias, must deserve constant and special attention on our part. The first academic study on this subject was carried out by Leon Festinger, who in late September 1951 was teaching psychology at the University of Minnesota when he read a note published in the *Lake City Herald* entitled “Prophecy from planet Clarion call to city: flee that flood.”

Continuing the work of his master, social psychologist Kurt Lewin, and author of the book *Research Methods in the Behavioral Sciences*, in collaboration with Daniel Katz, published the previous year, Festinger imagined how the group members would behave after their prediction turned out to be false, given everyone’s commitment to their beliefs and attitudes. Would they lose their faith? How would you justify the day after the probably dry December 21st? Interviewing the outbreak of dissonant/divergent feelings in the face of unconfirmed expectations, Festinger and his colleagues infiltrated the group to see if this would indeed happen. On the evening of the 20th, Marion, her followers and the undercover Festinger and his colleagues gathered at the home of the contactee to await the cataclysm. Around midnight, everyone got rid of any metallic object that could hinder the arrival of their intergalactic transport. At 4 o’clock in the morning, no flying saucers had yet landed in Chicago, nor were there any signs of rain. Marion burst into tears and announced that she had received a new and providential message from her friend Sananda: the assembled group had radiated so much positive energy, so much light, that the gods had decided to postpone the destruction.

But if Marion’s prediction had failed, Festinger’s had not; as he had predicted, the group members, paradoxically, not only did not abandon their beliefs, but sought explanations for their non-realization by clinging even more strongly to them. The discrepancy between what they believed and reality became the basis for Festinger and his colleagues to elaborate the Theory of Cognitive Dissonance, which is, roughly speaking, a state of tension that occurs when someone experiences two antagonistic and psychologically inconsistent cognitions which are incompatible. The subject is then motivated, by the experienced discomfort, to behave in such a way as to reduce the dissonance. It is the old double morality that allows people to take one action while preaching another, failing to see what they dislike so they don’t notice vital events and information that would counteract their behaviors and beliefs.

The theory of cognitive dissonance was first proposed by Festinger and his colleagues in the book *When Prophecy Fails: A Social and Psychological Study of a Modern Group That Predicted the End of the World*, published in 1956, and the following year by Festinger in his book *A Theory of Cognitive Dissonance*. It provoked a real revolution in psychology as it offered an elegant explanation for our most bizarre and contradictory behaviors.

Extreme Credulity

The main aspect to be considered, therefore, is the extreme credulity of much of contemporary society. In the last decades I have interviewed hundreds of witnesses, I have checked out apparition sites *in loco*, I have visited UFO groups of the most diverse strains and tendencies, I have attended hypnosis sessions, mediumistic operations, and

channeling, and I even took part in mystical-religious services, always as an observer-participant. I found that in all these places and situations, there is practically no room for doubt. No one is free to speak up, saying, “That can’t be,” because they will be at risk of being asked to leave or even attacked by the faithful. The insistent presence of UFOs brings with it the messianism of a genre that insists on surviving when the cycle of such movements seems to have run out, providing strength and relevance to the most remote prophecies that relate times of crisis to the presence of “disturbing signs.”

The acronym UFO, which in the strict sense means Unidentified Flying Object, was coined by the US military as an attempt to fit unexplained observations into an ordination. Over the past seventy years its original meaning has been altered to accommodate and assimilate innumerable connotations, many of mystical-religious character, lending itself to all kinds of conjectures and speculation. So much so that the ufologists are not even able to accurately define their object of study or to define the field of research.

If not, let’s see how the head of the Ohio State Department of Astronomy and nicknamed “father of scientific ufology,” J. Allen Hynek, who for more than twenty years served as a consultant to the US Air Force on three consecutive official projects [Project Sign (1947-1949), Project Grudge (1949-1952), and Project Blue Book (1952-1969)], defined what a UFO is: “An object or light seen in the sky or on the earth, whose appearance, trajectory, dynamics and behavior luminescent generally does not suggest a logical and conventional explanation, and one that is not only disconcerting to the original observer, but remains unidentified despite all the evidence available to people technically capable of making common sense identification, if this is possible.”

A UFO then, in Hynek’s sense, is an unusual stimulus that originates a report about a phenomenon (object or lights) that, due to its aspects or dynamic behavior, cannot be identified by human perception, such as ensuring that an object is really an object, that the light is really in the sky and is not a reflection of a terrestrial light source, which is truly hovering and which is not just on the observer’s retina? It is somewhat paradoxical that one insists on calling an object something that most of the time does not even seem to have material consistency, as if it could give the phenomenon a certain concreteness. In the absence of a positive definition that explains what UFOs are, an uncomfortable question remains: What are ufologists investigating after all? In reality, any supernatural or paranormal phenomenon fits Hynek’s definition.

Over time, ufology, a discipline whose objective should be to conduct investigations through the application of the scientific method, has become an appendix of cultural distortion that strives to equate unexplained facts with supernatural phenomena. UFO researchers still insist, however, that reports of encounters with UFOs are “pure,” “impartial” and are free from any external contamination and mental and cultural predisposition. In order to frame the new experience in a coherent structure that makes sense, psychological, social, and cultural mechanisms immediately come into action and seek to convene what in the first moment, by the limits of language, was classified as “unidentified.” The more unstable and susceptible to contradictory interpretations are the studied realities, the more necessary it is necessary to draw sharp boundaries and establish precise goals.

Projective Elaboration

Instigated by the innate propensity of witnesses to pick up elements of fiction and incorporate them into the accounts, Argentine social psychologist Roberto Enrique Banchs undertook a rigorous and categorical study of the effects on the population of clearly suggestible films. Through graphs and statistical charts, he fully demonstrated that many times waves of UFOs erupted, increased, and decreased following the time of launch, exhibition and poster output of the films. “It is noteworthy to note that his projection coincides with the months with the highest incidence of reports, which are significantly reduced when the film stops occupying the screens of cinematographic theaters,” he wrote in his book *Fenómenos Aéreos Inusuales: Un Enfoque Biopsicosocial* (Buenos Aires, LEUKA, 1994). The comment refers to Steven Spielberg’s *Close Encounters of the Third Kind*, shown in Argentina in 1978, the year that this country found itself dealing with a gigantic wave of flying saucers. Banchs stated that:

The causal relationship established between the [films] cannot go unnoticed when analyzing the role played by the science fiction genre in UFO activity. Therefore, the present study confirms the hypothesis that the phenomenon does not manifest itself in cycles or waves due to its intrinsic nature, but to other factors, denoting a state of latent emotion that awaits no more than an opportunity to manifest itself. (P. 83)

In order to carry out a critical appraisal of the problem of observations and their potential falsifications, Banchs developed and carried out in late 1984, for the first time, a “controlled experiment” in which he simulated the usual conditions of an ufological observation, adjusting it in order to minimize the risk involved in decisions.

To carry out the experiment, Banchs used a room with seats placed along it, a projector and its screen, and a sound amplifier. Such conditions were presented to the participants on November 18, in the city of Rosario, Santa Fe province, by the regional Federación Argentina de Estudios Extraterrestres, with the assistance of Eduardo Ficarotti. The experimental group was formed by 15 persons of both sexes of varying ages, educational and professional level, who were interested in the UFO theme. In order to prevent bias in the results, none of the participants previously knew about the experiment or even knew that they would be subjected to such an experience.

In short, an image of a characteristic and very appreciable UFO was projected for five seconds – 45 centimeters on the screen, at a maximum distance of 3.5 meters. This appearance was characterized by unpredictability and fugacity. Impromptu interrupting the conditions recreated from an ufological observation – image and sound – the participants were then asked to avoid the exchange of impressions and the group was instructed to respond, without time limit and with absolute freedom, to a brief specific questionnaire for UFO observation.

When analyzing the data obtained, Banchs found a series of disparities and concluded that “none of the testimonies really reflected what was offered to the senses, and few were those who approached them.” In a particular analysis, Banchs noticed several mechanisms of the psyche:

a) Omission: In some cases, observers omit visible parts of the phenomenon – absence of prolongations, etc.

b) Replacement: Witnesses modify or replace aspects of the UFO – orange with red, etc.

c) Addition: Observers add non-existent elements – small towers, engine noise, etc.

“This is what some authors call ‘projective elaboration,’ that is, the witness produces a more complex and unreal report,” said Banchs. Due to cultural and social influences, there is a “projective transformation” in which the subject projects his or her more or less conscious knowledge about UFOs, not induced by the perceived fact, but deduced from the acquired knowledge.

Facing the unknown and assuming that the observed is related to the idea about UFOs – for example, extraterrestrial spaceships – the witnesses accommodate the image of the object to this prefabricated image, which, in appearance, solves the flaws and inconsistencies of the sighting, eliminating restrictions and reinforcing with non-existent details what they cannot interpret outside the framework of their beliefs, only stopped by critical reasoning. Banchs concludes:

Scientific conviction is disguised by belief, arising from the emotional aspect and certain pre-established ideas in consciousness. The UFO therefore acquires an individual and collective sense and meaning, under different appearances that are subordinated by visual memory, sensitive to the influences of the mind. In short, it can be said that one of the major limitations of the investigation is that UFO witnesses do not describe what they see, but what they believe they have seen.

Perception, understood as the act or effect of perceiving, is a complex psychic function, through which the mind comes to form a reproduction of outer objects, with the knowledge of the spatial situation, individuality, and reality of these objects. Visual perception is distinguished from sensation, since it is much more complex; it requires the competition of images, a judgment of exteriority, attention, etc. For German philosopher and mathematician Gottfried Wilhelm von Leibniz (1646-1716), perception was the “more or less alive representation that transforms each monad into a more or less alive mirror of the entire universe.”

The belief in the existence of the outside world is a product of acquisition, with some admitting the perception of our self as immediate and, as acquired, discursively, the notion of non-self. When two individuals see a thing, they hardly capture the same data about it, because each interprets it differently. The intersection between the stimulus and the reaction is not one-to-one nor does it depend on education, history, and language. Vision and its representation are determined not only by the neural system, but mainly by cultural conditioning. We know that all witnesses can make mistakes or distort reality, without having these purposes, shaping their narrations according to previously defined expectations, affecting certain observable magnitudes. More than a receiver or transmitter of information, the human being is a transformer. The way we see the world is the way useful to our perspective, said German philosopher Friedrich Wilhelm Nietzsche (1844-1900). In *Posthumous Fragments* (1885-1887), Nietzsche proclaimed that “The world that concerns us is false, that is, it is not a state of fact, but poetic invention.”

Conclusions

The witness, for being the first to incorporate the prodigy within a certain system of paradigmatic beliefs and, from them, relay to others an anomalous, infrequent, and unusual phenomenon that denotes multiple interpretations, although commonly considered, in the present time, as a technological portent of extraterrestrial origin (with its intraterrestrial, interdimensional and intertemporal variants), it is on whom the UFO Phenomenon has always been emphasized.

The witness is at the heart of the explanatory paradigm, the standard model that every culture uses to solve a given problem. This paradigm not only acts as an organizing model of perception, but also constitutes a prerequisite of perception itself, however varied, divergent, and even incompatible with the explanations proposed to justify the facts.

The belief in UFOs as extraterrestrial super-technological vehicles was being promoted on a large scale through literature, newspapers, magazines, comic books, radio, cinema, television, and the media in general, which ended up shaping the imaginary, inclining people to naturally take them as such. The testimonies would not be, properly speaking, absolute novelties as claimed by ufologists, but rather an almost literal reproduction of science fiction reports prior to the 1940s. It was these writers who provided the necessary materials for the elaboration of a new mythology. Behind the appearance of the unusual, there is a set of themes and motifs that were already present in the accounts of fantastic folklore, as well as a series of floating and peripheral themes unequivocally taken from pulp fiction literature and “B movies.” These themes, with their different levels of interpretation, were incorporated into the basic and invariable structure, either in a single or repetitive way.

The UFO phenomenon is configured by today’s scientific-technological model, which is why it assumes technological characteristics. The advance in the knowledge of physics and the technical-industrial improvements, added to the irruption of communications on a planetary scale, the social upheavals, and the warlike conflagrations, created a psycho-logical climate that favored the emergence of the UFO phenomenon in facets that were assimilable at the time: an aircraft in “flying saucer” format, anticipated by avant-garde aeronautical designers and engineers and by science fiction authors. The flying saucer appeared as a technical novelty to be perfected. The details and technical details described by the testimonies give an account of this progress: “windows” are seen in flying saucers in the late 1940s; “extraterrestrials” are seen wearing “diving suits” in the 1950s; in the same decade, contactees taken aboard flying saucers describe seeing screens (like those on black and white television sets), “control panels” with buttons and levers and stabilizer-type dials and hands; in the following decades, flying saucers would present increasingly bold and aerodynamic shapes and designs and would come duly equipped with laser beams, touch-sensor panels, microcomputers, holographic projectors, genetic laboratories, etc.

It is possible that all these visions in the course of history and to an ever-increasing degree in the present, are versions of the same phenomenon or even psychic forms, similar to thought-forms, generated by the minds of witnesses or the collectivity as a whole when witnessed by others large groups and by crowds. Visions of UFOs, however, cannot be attributed solely to factors of a “spontaneous” order, reduced to a psychic pathology or seen as a mere by-product of the irruption of mystical-religious

tendencies – duly updated for the standards of our scientific epoch – technological – rooted in the “collective unconscious,” as Carl Gustav Jung wanted. These tendencies that denote a compensatory effort of the unconscious to deal with the state of fear, chaos, depression, anguish, and perplexity of our days, were channeled, articulated, and potentiated so that they would acquire the form and consistency of a mass phenomenon.

To recall Nietzsche and Freud, who affirmed that the subject does not govern his speech all the more as he believes he is telling the truth without telling the whole truth, the testimonies are still permeated by other media reports and literature, other experiences, and by the historical events themselves.

Finding out about something through what was directly witnessed cannot always be converted into discourse, as in traumatic situations, in which the witness prefers to silence or obliterate so that it does not emerge from a lived situation to something that is still lived.

Finally, the testimony contains the report of what was perceived by the witness through any of his senses and interpreted by his set of paradigmatic beliefs. Although they are the most reliable descriptions of reality, these reports by themselves can't be seen as the definitive version of history, because, in addition to constituting only a partial view, they are still permeated by other subjectivities and experiences that constitute the experience of the one who gives his testimony.

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Aliens Are Good to Talk With¹

Luise White

Abstract: Using the methods of oral history, this paper argues that eyewitness accounts of UFOs, and abductions by aliens, can be read as stories that describe and debate the concerns of specific times and places. Whether they are true or false is not the issue. Instead, the commonality with which aliens, their technologies, and their goals are described can be taken together to reveal broader anxieties and understandings that people – abducted or not – live with daily. This is not a matter of teasing out hidden meanings, but of evaluating witness testimony in two ways at once – stories about what aliens do to the humans they abduct, and stories about human reproduction.

Keywords: Aliens, Colonization, Race, Reproduction

Anthropologists insist that the reason so many folktales of so-called exotic peoples are about animals – the hyena and the leopard, for example, or the crocodile and the rat – is because animals are good to think with. They are not metaphors, but rather a bundle of traits and characteristics that can be deployed to answer as many questions as these stories ask; they let the storyteller and the audience think out loud. I am not an anthropologist but an historian who had done a great deal of research in Africa (not on UFOs), and one of first things that struck me when I began reading UFO abduction narratives was the kinds of questions they raised. What, I asked myself, are people talking about when they talk about being abducted by aliens?

Also, as a historian I am troubled by the ways that legal categories have been imposed on methods of historical research. Eyewitness testimony or hearsay have a certain value in courts of law; they do not have the same meaning in ordinary speech and the interpretation thereof. I'm not alone among historians in being unhappy with the concept of eyewitness testimony: I prefer to use the term first person narrative, because even the most immediate description of what someone saw or experienced is told with tropes and shared vocabularies. Eyewitness accounts are not the same with every recounting; they can be dumbed down or torted up depending on a wide range of factors, including the audience and who else is in the room. Hearsay as a story recounted by someone who did not witness an event –or who, even worse, was a friend of a friend of someone who did – has no standing in courts of law, but the people I have interviewed in East Africa insisted that hearsay was reliable. If a story passed through many retellings, anyone who thought it false would not have repeated it as true, so hearsay was thought at least as trustworthy as first-person accounts.

But based on my reading of these published accounts, what do we do with first person narratives in which almost everyone tells the same story? Does it mean that same thing happened to every person who told the story? That's the most logical answer, of course, but if three eyewitnesses to the same traffic accident describe it differently shouldn't we question three very similar

¹ This essay contains some material first published in two earlier essays, "Alien Nation: Race in Space," *Transition* 63 (1994), pp. 22-33; and "Evidence," in Gaurev Desai, Adeline Mesquillier, and V. Y. Mudimbe, eds., *Critical Terms in the Study of Africa* (Chicago, University of Chicago Press, 2018), pp. 105-126.

testimonies of events that happened at different times in different places? What does it mean that almost all aliens are described as grey humanoids with large eyes and even larger heads and, according to many abductees, no external genitalia? Does it mean that all aliens are the same or that they came from the same planet? Again, that is a reasonable answer, but it raises the question of why these beings come again and again, often investigating the same human activities?

My question is a simple one, but it undermines the concern with eyewitness testimonies: if the evidence for alien abduction is that many people have experienced it, what does it mean that so many people tell the same story? Why are words and details the same? Does it mean that the experience was the same and somehow easy to recall, or that abductees are telling a shared story, whether or not it happened to them? I am not saying these stories are made up but that the vocabulary of UFO abduction narratives may be a good and meaningful way to talk about something that is otherwise indescribable. This is not as uncommon as it may seem. When someone says, “I really don’t know how to how to explain it” or “I don’t really know what to call it,” they are saying that an event or a process or an emotion is outside the bounds of their ordinary experience, that it is alien.

Rather than thinking about these accounts as true or false, I suggest that it may be more useful to think of them as providing structures by which individuals can think and talk about unnerving, inexplicable phenomena. The experience of missing time, of having minutes or even hours you cannot account for, is unsettling to say the least. That there are circulating stories that explain what happened during that time can offer an explanation; that explanation might be unnerving in a different way, but as a shared experience with shared words and ideas it can be reassuring. Let me be clear: if I were to claim that UFO abduction narratives are fabricated, I would mean that literally: they are stitched together from bits and pieces of other people’s stories, with some details honed and clarified and others rejected outright, until a whole story – as in whole cloth – emerges, with its uncanny similarity to other abduction stories.

What struck me most forcefully when I read these texts was the extent to which aliens were concerned with human reproduction. I don’t want to claim that is all aliens are concerned with; I am writing about the literature I know best and, in fact, I find most compelling. When I first read these accounts I was surprised by the idea that alien beings, capable of a technology to cross galaxies and solar systems, would need to do so much research to understand human reproduction. Indeed, if aliens have indeed been visiting earth for almost a century, shouldn’t they have figured it out by now? Any number of abductees suggest they have not, however, and it is important to ask why. Why, over years and countries, do aliens want to know how humans reproduce? Is it mysterious to them? Do they think it changes over time, or that it is different for different races? Do they want to find out how if it is possible to modify the way a fetus is created? Do aliens understand the human race to be the unitary group we understand it to be now, or do they think of humanity in terms of separate races, in the way that races were thought of on this planet three hundred years ago, separate groups with such distinct physiological and anatomical differences that their procreation and evolution had to be studied with the greatest care? Do aliens, like European colonizers of the 17th and 18th centuries, think that there had to be extensive scientific intervention before it was ascertained that their race could breed with humans?

That's what these narratives seem to suggest. This in turn suggests that many of the concerns of the alien abduction narratives are those of 17th century Europe, when the fact of sperm and egg was first established. These facts were not disputed by the imperial agendas of the 18th and 19th centuries, but they were racialized by them. The simple question of imperial expansion was could the expanding race live everywhere, whatever the climate and disease environment? If they could not, could they be able to do so by breeding with a local race? Was such breeding even possible? Whatever evidence surrounded settlers daily, scientific communities in Europe and new colonies were obsessed by bodily differences. Were all human genitalia the same? (Think of Hottentot apron, the supposedly elongated labia of women in Sothern Africa, and think of the absent genitalia of aliens). If local humans could not breed with conquerors, was there another species that might fit the bill? Erudite 19th century explorers suggested African women be mated with gorillas or chimpanzees to produce a truly reliable labor force. If aliens are trying to colonize earth, or repopulate their planet, or another planet altogether, investigating human reproduction makes sense.

These are questions abductees ask, or at least impute, about what motivates alien investigations in their published accounts. Have abductees shared a single experience that they report in near identical detail or are they talking about something else in a shared vocabulary? What concerns shape these accounts? What are abductees talking about when they talk about alien probes and breeding programs? In many ways they are talking about what Europeans and North Americans have been talking about (and hearing about) for over a century – that population growth serves a nation as well as it serves a family – but in greater medical (or popular medical) detail. How is conception to be managed and controlled, what are the ways a woman can become pregnant and who has the right to terminate her pregnancy? Is biology destiny or can genes be edited to insure health and longevity? If genes can be modified or removed, where is this done? In the womb, in a petri dish, or in an incubator on a spacecraft? In the 21st century, these concerns are not debated as biological facts or even biological theories; they are “reproductive rights,” to be determined by law and practice, not physiology. Alien abduction stories return reproduction to a physical realm, albeit one with many mechanical aids. The medicalization of fertilization – where and in what kind of vessel a sperm and egg join – is no match for the wide range of mechanisms by which aliens are said to extract eggs from women of all ages, whether they are virgins or not. The very questions that frame contemporary debates about abortion are the questions that aliens try to answer in any number of published abduction narratives: what is the viability of a fetus outside the womb? What organs must be present for a fetus to have the status of a person? Several abductees describe rooms of fetuses floating in life-giving fluids: these children (or hybrid children) that survive outside the womb are living beings, regardless of which planet they will live on.

My point is that these are accurate stories. Whether they describe actual abductions by aliens I cannot say, but they are accurate stories about the questions that have shrouded the physical nature of human reproduction since the 18th century. Are sperm and egg universal? Are they the only way humans can reproduce? Are races so physically different that they require detailed investigation to understand their reproductive capacities or are they similar enough that they can procreate with each other? If their reproduction needs assistance, who has the authority to give it and how is it to be done? If fertilization is to take place outside a woman's womb, where and how does this take place? If a fetus cannot stay in a womb., for reasons of a woman's choice or an

alien's acclimatization program, when can a fetus be removed and where can it stay until it reaches full term? While these questions are often standardized in law, abductees' belief in alien interventions is correct: these questions require more research.

What I have learned as a researcher is that anything that is really important to people will be talked about and debated in many ways in many domains. The question of who can live where in this solar system and beyond is all around us. As I wrote this, in late 2021, two billionaires flew to the edge of space in rockets of their own manufacture, while several streaming services offer dramatic series in which poor people are condemned to remain on a polluted earth while wealthy, educated people thrive in artificial environments orbiting our dying planet. Alien abduction stories are perhaps the oldest accounts of how human survival might be managed in the future, and however reliable or unreliable these published accounts are as stories of UFOs, they are precise accounts of how much anxiety human reproduction generates.

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IV

EMPIRICAL RESEARCH

Alien Delusions: Some (Real) Clinical Cases

Carles Berché Cruz

Abstract: Delusion is a symptom present in a wide variety of psychosis-type mental disorders. Delusions are wrong beliefs, fixed beliefs that are not amenable to change in light of conflicting evidence. However, there are different types of delusions. The most common examples of these delusional disorder types include persecutory, referential, or grandiose delusions. Delusions associated with the belief in extraterrestrial entities were very frequent in the last decades of the 20th century, coinciding with the fashion trending in flying saucer sects and related beliefs. Today, although they are still present, their appearances are infrequent. Most of the cases presented here are from my patients, others are collected from my colleagues. In this article, I explain my personal experiences, based on my knowledge in psychiatry. I slightly changed the names of subjects in order to preserve their confidentiality.

Keywords: Aliens, Delusion, Flying saucer sects, *Folie á deux*, Psychiatry, Psychosis, Social trends

An Earthquake at the Hospital

Let me go, I have to go out on the roof of this building. Otherwise, it may be the end of the world!

This was said by the patient in Box 9, the emergency box reserved for psychiatric patients. He was taken to a hospital by ambulance in a state of intense anxiety. He told us that the aliens were landing on the roof of the hospital at that precise moment, and only he could stop them. We should let him go, we were all in danger. In fact, the whole Earth was under threat.

The story follows in a confusing and also somewhat inconsistent way. More or less, he came to say that the aliens would destroy the planet and only his blood could prevent it. At another time, he said that they really came only in search of him, because of his blood, and so we should help him contact them and give them his blood. The patient alternated between a megalomaniac delusion (“only I can save the world”) and a persecutory delusion (“they come for me”).

There were about four of us, including nurses and myself, trying to calm and restrain the patient, who was intensely agitated and trying to escape from the emergency room, fully convinced of the intense danger waiting for us. He was certain that a large spaceship was above the hospital and would destroy the building if we did not allow him to leave the emergency room immediately.

The patient was also violent. It was difficult for us to constrain him, there even requiring several people to do it. Finally, I found how to stop him:

You have to draw blood from me immediately, at least a little bit, it is necessary to stop them, hurry up!! Don't you see how the whole building shakes, don't you feel an earthquake? They are already here! he would continue, his eyes disengaged, violent, agitated.

So, I told him: *The building is trembling, so you are in danger of being injured if you fall from the litter.*

Yes, you're right, he recognized.

I continued: *it is best for us to tie you to the litter to avoid falling to the ground.*

He agreed when I told him that this way, we could draw blood more safely. With this tactic he allowed us to administer the sedative drugs. And with the help of both psychopharmacological and mechanical contention, we could wait for him to calm down.

He was a known patient with paranoid schizophrenia, who had required several admissions, after which he often abandoned medication and relapsed from time to time.

This case happened in the late 1990s. By then, the flying saucer sects were booming, they were in trend at the same time, along with other similar beliefs. And delusions linked to alien entities were the order of the day.

In the following days, the patient recovered thanks to our treatment. With proper medication, the delusions ceased. He was able to make some self-criticism and recognize these ideas as strange and pathological. In part he remembered those ideas that he was now able to criticize. It is also true that he only partially remembered what happened: a partial amnesia of the psychotic episode often appears.

Years later, the patient was readmitted. He continued to present delusional ideas, especially of a self-referential and persecutory type, although without any reference to alien entities.

Delusions

Delusion is a symptom present in a wide variety of psychosis-type mental disorders. Delusions are wrong beliefs, fixed beliefs that are not amenable to change in light of conflicting evidence.

A delusion is a false idea that a person maintains over time with great conviction. This idea is not modifiable by either empirical evidence against it nor by logical arguments. Delusions have two characteristics: irreversibility and incorrigibility. Both characteristics refer to the fact that the persons believe in their delusions and have no doubts about their veracity.

There is a narrow gap between delusions and other irrational beliefs, suggesting that delusions replay characteristics of many of our everyday beliefs. On the other hand, even if the persons are shown with objective evidence that their delusions are false, they will not be altered, and lastly, the experiences of the subjects will hardly modify their delusions.

The patient I wrote about at the beginning was convinced, absolutely convinced of the truth of his thought. It would have been completely useless to argue that there were no flying saucers over the hospital. There is no need to discuss whether his blood would serve to save humanity. It was equally irrelevant that none of those present noticed the supposed earthquake, neither shaking nor loud noises. That patient was a delusional patient, regardless of whether aliens exist or not.

“EL”

“EL” adopts his name by his ancestry: angels and archangels. He is descended from angels. He is a descendant of Samuel, Gabriel, Raphael, Samael... He himself is an angel! That’s why he changed his previous name to “EL.” “EL” comes from AngEL, ArchangEL, GabriEL, SamaEL,

etc. Any resemblance to other contactee names is purely coincidental (e.g. Raël, whom he had not even heard of).

“EL” founded a sect to which he gave the original name of “Peace and Love.” Currently, in addition to being the founder, he is the President... and also the only formal member.

...they communicate with me through the mind: by telepathy. And no, these are not voices. These are communications. My cells and the alien cells are connected, they don't implant devices like scientists imagine, they implant DNA. That is why you believe that they are angels, that they are divine, but they are really aliens. Aliens are magicians, so advanced that they do not need electronics, their magic is DNA.

That is why the patient does not accept the drawing of blood to do tests. He thinks that with his blood we could copy his DNA and with his blood (“EL’s”) we could replicate the aliens and so destroy them. That is why he is a protector of them, he is the protector of Peace and Love. Nor does he accept long-acting injectable antipsychotics, for the same reason.

Those same thoughts lead him to abandon medication after admission. He was absolutely convinced that drugs reduce the telepathic capacities he believes he possesses. Between admission and admission, he maintained a delirious ideation attenuated with suspicious attitude, irritable humor, and hypervigilance of his surroundings. For years, he claims to have received teachings from them. Years in which the delusion of mystical onset becomes a more megalomaniac delusion: “I am a Doctor... I have done a thesis in quantum-holistic coaching.” As the years go by, his behavior becomes increasingly extravagant, he abandons medication, and he uses natural remedies and treatments with medicinal plants.

Over the years, the messianic delusion becomes increasingly mystical, and in turn the aliens become angels. In the 1990s, he was an envoy of the aliens. Now into the 21st century, he is one of them; he is an angel like them.

As the illness progresses, he requires an average of one readmission every two years. But the delusion remains, although its content mutates. And it mutates following the trends that mark prevailing social fashions.

Searching through the annotations of the clinical course of the first admissions, the references to aliens are continuous, and in the second decade of the present century, he only speaks of angels in the strictly mystical-religious sense, angels are no longer a way of interpreting the extraterrestrial. Currently, angels are divine.

“EL” remembers hardly any details of the previous admissions, and practically nothing of the beginning of his illness. He denies having ever talked about aliens, and what has been written in his clinical course is false, inventions by us doctors. We are the ones who participate in a plot against the Divine, we are the ones who falsify the Truth.

There is a narrow gap between delusions and other irrational beliefs, suggesting that the same beliefs that give rise to delusions characterize many of our everyday beliefs. We may have no evidence against the truth of a belief, even when the belief is very implausible, with reasonable

contradictory evidence as to its veracity. But this is not enough to consider that a false idea can be a delusion.

In order for a false idea to be considered delusional, it will be necessary that it cannot be justified by a political, social, religious, or cultural context and that it is not shared by the various other members of the cultural or social group to which the subject belongs. Characteristics already mentioned, such as irreversibility and incorrigibility, help to diagnose it as delusional.

Delusions do not need to be about external reality or necessarily be based on incorrect inference. They could be about oneself and one's own experiences, requiring little or no inference. So, delusions often are influenced by booming tendencies or trends.

Types of Delusions

There are different types of delusions. The most common examples of the delusional disorder types include:

- *persecutory delusions*: The most common delusion type associated with schizophrenia, this consists of the belief of being harassed or harmed. "The aliens intend to exterminate us to colonize the Earth," for example.
- *referential delusions*: These delusions cause persons to believe that gestures, comments, etc. are directed at them. A person with referential delusions may appear very paranoid, "My extraterrestrial guide speaks to me through the gestures and looks of the people around me," for example.
- *grandiose delusions*: These are delusions where persons believe they are exceptionally famous, wealthy, or have special abilities. "I am an envoy of Aliens, they choose me as their prophet," for example. That type of delusion is often associated with bipolar disorders.
- *erotomaniac delusions* (where persons falsely believe another person is in love with them); *nihilistic delusions* (where persons believe that a major disaster, such as the end of the world, will occur); or *somatic delusions* (where persons are very concerned with their body and health, such that they believe something is always wrong or going on with them).

Delusions are very resistant to counter-evidence and counter-argument, but they are not totally impervious to cognitive probing. People can give up their delusion after being invited to reason about the inconsistencies that the delusion is introducing in their belief systems. And maybe the same can happen in a social change or evolution of trends.

World phenomena such as globalization and immigration, influence the psychosis of very diverse presentations: expression through body language and somatization (India), frankly bizarre hallucinations and with high rates of paranoia (Africa), ideas of reference and guilt (Japan), mystical-religious ideation of Christian tradition (Italy), etc. The variability of the delusional symptoms that define these diseases, according to a trans-cultural view, is marked by the collectivism/individualism binomial, religion, culture, tradition and history of the country or region.

That is why the delusional content is highly influenced by what we could call fashions, trends or even "psychic epidemics." It is convenient to place oneself in the cultural system of the patient,

overcoming the Eurocentric vision of mental health and knowing the system of values, myths, religion, and language, valuing the emerging cultural signifiers.

Thirty years ago, “Vladis” presented episodes in which he loses his memory and appears in unknown places that he relates as other planets to which he mentally travels, he has visual and auditive hallucinations that he interprets as visions of God and/or the Devil or “galactic images of planets, sometimes beautiful and sometimes bad.” He tells other episodes in which he could not move or could make people stand “as if frozen.” He described episodes in which he could not walk—“my legs were not coordinated, the right controlled by an Angel and the left by the Devil.”

“Otto” began to notice strange behavior in his friends that made him think that they wanted to kill him to remove his organs and trade with them. He goes to the emergency room asking for shelter, “my best friend tried to kidnap me to remove my organs.” In the emergency room, before being treated, he again has the feeling that his organs are going to be removed and he escapes. A few hours later, he is arrested for disturbance in the street. Once in the ambulance, on the way back to the hospital, he hears how the paramedics comment how they are going to dismember his body, so he runs away again.

What is strange in this story? Nothing. There are no aliens trying to abduct our protagonist. This case is very recent, from 2021.

“Mila”

She was a young girl with early schizophrenia. “Mila” had the ability to contact aliens by looking at a white wall. White walls were for her like screens where the images materialized and she could also talk to them. In this case, the patient suffered from visual hallucinations, which are not very common in psychotic disorders. On one occasion I was able to attend one of her “performances”: “Mila” gathered a group of almost ten people around her, near a building about five stories high that overlooked an unbuilt plot, therefore without windows with an immense white wall. There she contacted her guides, surrounded by those followers, some of whom also shared the vision of the alien face drawn in a simple shape on the wall, as if it were a blackboard...

This case is an example of shared or induced delusion, often called *folie à deux* in the scientific literature. It is a delirium shared by third parties. In general, those who come to believe the delusion are usually family members. It also often occurs in close, cohesive, sectarian-type groups. A supposed intellectual superiority of the inducer favors the main delusional subject imposing his delusion on a passive partner. Other factors that induce shared delusion would be life together and social isolation; plausibility of delusional content; loneliness; low self-esteem, affective instability... This explains the formation of sects and shared madness in convents, isolated towns, families and clans. And they are usually delusions that have a certain logic and coherence.

In the 1990s, “Andreu” was a fan of science fiction books, from which he often captured hidden messages with catastrophic meanings. “It’s going to be a big one,” he told me at the beginning of every interview. Although I asked him what books he read, he could not tell me any titles and only mentioned the names of classic authors of the genre, such as Arthur C. Clarke and Isaac Asimov:

You don't believe me, but they wrote warnings for me to understand... ETs will invade us, and I get signals sent to me through books...I am the only human capable of understanding them, he used to claim.

Over the years, only the neighbors in the village where “Andreu” lived represented a threat to him. A disease of the retina caused him to lose some of his vision, and he went out for a walk only through the streets closest to his house. He kept reading with the help of magnifying glasses. “And the books?” I asked him about 4 or 5 years ago. He replied that this was a neighbor’s trap to keep him distracted. “It’s going to be a big one!” he kept saying. “One of these days, the neighbors will fuck me, I read it in the newspapers.” I insisted on asking him about those books he read a long time ago, and their meaning, “Oh, this was my imagination...”

Conclusions

Over the years, I have been able to observe how the delusional topics have changed. And these changes were due to social trends and beliefs. In the 1980s and 1990s, alien stories as abductions, contactees, close encounters, were booming and were very popular. Nowadays the delusional items are terrorism, political inquiry, or others. Mystical and religious delusions (Christ, prophets, angels, and demons...) have always been present, before and now.

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Memory Distortion in a Social Judgement: People who Report Contact with Aliens are More Susceptible

Stephanie Kelley-Romano and Amy Bradfield Douglass

Abstract: An online experiment was conducted to test whether memory distortion for a social judgment is amplified among alien abduction experiencers (AAEs) compared with non-experiencer (control) participants. AAEs (N = 156) and control participants (N = 171) read a transcript of a fictitious couple's counseling session. Participants then learned that one member of the couple had an affair shortly after the session occurred. They indicated which person they thought had the affair. Half of the participants were randomly assigned to learn that their decision was correct (i.e., confirming feedback, "You're right. That is the person who had the affair."). The other half learned nothing about the accuracy of their decision. Consistent with previous research, confirming feedback inflated retrospective judgments related to the decision. As predicted, this effect was even stronger among experiencers. These results suggest that increased susceptibility to feedback-induced memory distortion could be one mechanism through which experiencers develop confidence in their memories of encounters with aliens.

Keywords: Memory, Alien abduction experiencers, Confidence inflation, Social influence, Alien abduction discourse

Introduction

Modern reports of interactions with aliens have been the subjects of interest since Betty and Barney Hill reported being abducted in 1961 (as reported in Fuller, 1997). The estimates as to the prevalence of this phenomenon vary widely. Their estimates of the number of people who have been contacted by aliens range from 2% (Hopkins, Jacobs, and Westrum, 1992) to 5-6% of the United States population (Jacobs, 1992). Many other researchers do not believe that people are actually kidnapped by extraterrestrial beings. Instead, they believe that memories of such an event are distortions of reality and have concentrated on finding explanations for the origin of these false narratives. All of the following explanations have been suggested for memories of extraterrestrial interactions: intentional hoaxes (Klass, 1988), sleep disturbances (i.e., hypnogogic or hypnopompic hallucinations, see Blackmore, 1998; Hufford, 1994), expression of repressed memories of sexual abuse (Ring and Rosing 1990; Rodeghier, Goodpaster, and Blatterbauer, 1991; Powers, 1994), fantasy-prone personalities (e.g., Bartholomew, Basterfield, and Howard, 1991; Rodeghier, Goodpaster, and Blatterbauer, 1991), psychopathology (e.g., Spanos, Cross, Dickson, and Dubreuil, 1993), delusions (Banaji and Kihlstrom, 1996), false memories (e.g., Newman, 1997), and suggestions implanted during hypnosis/structured interviews (e.g., Spanos, Burgess, and Burgess, 1994).

Unlike the researchers cited above, our focus was not on the origin of the narratives of AAEs, instead, we were interested in the gradual nature of memory distortion among experiencers.¹ Namely, we were interested in how experiencers go from a suspicion that they have been contacted by extraterrestrials to a confident decision that such an event happened. This is a relevant question

¹ Although some research distinguishes "experiencers" from "contactees" or "visitees," we use "experiencers" to refer to any individual who reports interacting with extraterrestrial beings (for a discussion of these terms see Rodeghier, Goodpaster, and Blatterbauer 1991; Gotlib, Appelle, Rodeghier, and Flamburis 1994; Kelley-Romano, 2006).

because AAE narratives indicate that suspicions about contact with aliens often precede actual memories for such an event (Kelley, 1999). Consider how this might happen: A person wakes after experiencing sleep paralysis. A tentative decision is made that the feeling of paralysis is consistent with visitation by aliens (e.g., Appelle, 1996). This tentative decision might be made after consultation with a hypnotist or therapist who believes in the veracity of extraterrestrial visitation (e.g., Bullard, 1989a). Or it might be made after consultation with books describing abductions (e.g., Budd Hopkins' (1981) *Missing Time* or Whitley Strieber's (1987) *Communion: A True Story*). For example, one experiencer writes "Budd Hopkins and Whitley Strieber helped me to accept the unacceptable...I read all related UFO/ET materials while doing research into my own personal experiences." (Kelley, 1999, personal correspondence). Experiencers also search the internet to find lists of abduction indicators, narratives of others who have experienced anomalous events, or to seek out support groups where they can talk with other experiencers in an attempt to understand their tentative memories of contact with aliens (Kelley, 1999).

The current research tests how experiencers might move from a tentative decision that they have been contacted by aliens to a confident memory for such an event. Specifically, the hypothesis is that experiencers are highly vulnerable to memory distortion that occurs as a result of information confirming a decision (i.e., feedback). It is likely that experiencers receive feedback about the accuracy of their tentative decision that they have been contacted by aliens. Several experiencers report that when they reached out to an abduction-sympathetic therapist, they were given several pamphlets describing the many indicators of abduction (Kelley-Romano, personal correspondence). Likewise, support groups are likely to provide confirmation of an experiencer's suspicion regarding alien visitation. The question we test in this experiment is how that confirmation might affect experiencers' judgments surrounding the decision that extraterrestrial visitation did occur. In the current research, the hypothesis that experiencers are particularly vulnerable to feedback-induced memory distortion was tested in a social judgment paradigm. We chose a social judgment paradigm rather than a paradigm related to experiences with extraterrestrial beings in order to prevent experiencers from becoming suspicious about the nature of the experiment.

The social judgment paradigm used in the current research has been used to demonstrate memory distortion in previous research. Bradfield and Wells (2005) required participants to make a decision about which member of a couple had an affair. Participants were randomly assigned to learn that their decision was correct or learn no information about the accuracy of their decision. Then participants made a host of judgments related to their decision. For example, they indicated how certain they recalled being in the accuracy of their decision at the time the decision was made (i.e., *retrospective certainty*). Because participants were randomly assigned to receive feedback, it was possible to estimate how those in the confirming feedback condition should have responded if feedback was irrelevant. Namely, they should have produced reports similar to those produced by participants in the no feedback condition. Note that this test of memory distortion uses a between-subjects design instead of a within-subjects design (in which distortion is demonstrated by comparing participants' judgments at two points in time; differences in judgments are interpreted as distortion). In this between-subjects test of memory distortion, people who learned that their decision was correct (i.e., confirming feedback) reported *remembering* greater certainty in their decision at the time it was made compared with a group that received no information about

the accuracy of their decision.² Reports on a host of other judgments related to participants' decisions and general abilities were inflated in the same manner. We hypothesized that experiencers would display similar memory distortion in the social judgment paradigm. However, we believed that their distortion would be greater than that of a college student sample (i.e., control participants).

The experiment reported here builds on other published research that has examined memory in a sample of experiencers. For example, McNally, Lasko, Clancy, Macklin, Pitman and Orr (2004) examined the psychophysiological responses of people reporting contact with extraterrestrial beings. Their data indicate that experiencers who listened to a script containing details of their own experience with aliens demonstrated more physiological reactivity than did control participants. More closely related to the current research, Clancy, McNally, Schacter, Lenzenweger, and Pitman (2002) used a common word list memory paradigm (Roediger and McDermott, 1995) to demonstrate increases in false recall and recognition among experiencers, compared with control participants. The current research adds to Clancy et al. by testing memory for a social judgment rather than for a set of previously studied words. Changing the context in which memory is studied is important because some research suggests that people's ability to remember words from word lists is unrelated to their ability to produce error-free autobiographical memories (e.g., Wilkinson and Hyman, 1998). In addition, the current research builds on Clancy et al. by employing a sample of experiencers substantially larger than what was used previously. In Clancy et al. there were 11 people with memories of alien abduction (recovered group) and 9 people who suspected they were abducted but did not have any memories (repressed group) whereas the current research includes data from 156 people who believe they have had contact with extraterrestrial beings.

To test the hypothesis outlined above, participants read a short transcript of a couple's counseling session and then made a judgment as to which member of the couple had an affair. Participants were then randomly assigned to learn their decision was correct (confirming feedback) or learn no information about their decision (no feedback). We predicted that people who received feedback would distort their memories of how confident they were at the time of their decision (and other memories). However, we predicted that the distortion would be greater among experiencers than among control participants.

Method

Participants

Control participants (N = 171) were recruited at several large universities across the country. They were either given extra credit in exchange for their participation or asked, in their classes, to participate as a way to understand how research is conducted online. Experiencers (N = 156) were recruited in one of two ways. First, an email requesting volunteers was sent to an existing database of experiencers managed by the first author. This database contains questionnaire responses from people who claim to have been contacted by extraterrestrials. Participants were initially recruited online to complete these questionnaires through links on other abduction related sites active at the time of data collection (e.g., www.caus.org) and UFO conferences (e.g., the annual Rocky Mountain UFO Conference). To ensure that accounts were consistent, participants answered

² This paradigm is closely related to Fischhoff's *hindsight bias* research (e.g., Fischhoff, 1975a). See Bradfield and Wells (2005) for a detailed discussion of these two phenomena.

follow-up questions either in writing or in an interview, to confirm narrative and demographic details. Only those cases for which the participants demonstrated consistency in narratives and personal details were included in the current data set.

Procedure

Once people agreed to participate, they were sent to a web page introducing the experiment. The introduction described the experiment as an examination of judgments about interpersonal relationships. Participants learned that they would read excerpts from a transcript of a couple's conversation at a counseling session, accompanied by several pictures of the couple. Once participants read the transcript, they would answer some questions about what they read. Then participants clicked on a link to continue to the consent form. After reading the consent form, participants clicked a box at the bottom of the page indicating their agreement to participate. At any time, participants could cease participation by closing the web page. There was no indication that any participants terminated the experiment prematurely, as there were no incomplete data records. After agreeing to participate, participants were shown five pages of excerpts from a fictitious counseling session. On each page there was a photograph of a man and a woman in an office setting. An attempt was made to match the demeanor of the couple with the text of the transcript. For example, the photo accompanying the part of the transcript in which the woman is complaining that her partner never takes out the garbage showed the woman looking angry.

After reading the transcript, participants read that one member of the couple had an affair shortly after the transcript was made. Participants indicated which person had the affair. At this point, participants were randomly assigned to hear confirming or no feedback about the accuracy of their decision. Participants in the confirming feedback condition were shown a screen that displayed the words, "You're right. That is the person who had the affair. Ok, now we'd like to ask you a few questions about what you read." The transcript was designed to ensure that confirming feedback was plausible, regardless of the decision made by participants. In the no feedback condition participants saw, "Ok, now we'd like to ask you a few questions about what you read."

After making their decision, all participants completed a 13-item questionnaire concerning judgments relevant to their decision: how certain they were at the time their decision was made (i.e., retrospective certainty), how much attention they paid to the conversation, whether they are good at making judgments about non-verbal behaviors, etc.³ Data from one participant were removed because of a concern that the participant did not take the experiment seriously; every single score entered was the default value. This pattern of responses did not occur for any other participant. Demographic information such as age, state of residence, and student status was also collected. Finally, participants read a debriefing statement and were thanked for their participation. The design of the experiment was a 2 (Confirming Feedback vs. No Feedback) x 2 (Experienter vs. Control) between-participants factorial.

Results

Preparation of Data Set

A common problem in web-based data collection is that people can respond to research materials more than once (e.g., Bai, 2018). We addressed this problem by structuring the experiment's web page so that participants' internet provider (IP) addresses were automatically downloaded

³ A complete survey instrument is available from the authors.

whenever data were submitted. Before running any analyses, we scanned the data set for duplicate IP addresses. Data from 50 participants were associated with duplicate IP addresses and removed from the data set.⁴ Among experiencers, data corresponding to 27 participants from nine IP addresses were removed. Among control participants, data corresponding to 23 participants from 10 IP addresses were removed. The analyses reported below were conducted on the remaining data set of 327 participants: 156 experiencers and 171 control participants.

Demographic Variables

Participants provided information about their age, gender, and whether they were enrolled in school. Because control participants were recruited from colleges and universities, it was expected that this group would be younger and more likely to report being in school than would experiencers. Indeed, a two-sample independent t-test revealed that experiencers were significantly older ($M = 47.94$, $SD = 12.67$) than control participants ($M = 20.91$, $SD = 5.47$), $t(325) = 25.43$, $p < .001$. In addition, a two-sample z test for the equality of proportions indicated that control participants were significantly more likely to report being in school (85.26%) compared with experiencers (1.16%), $z = 15.46$, $p < .001$. Another two-sample z test indicated that there were significantly more women in the control sample (78.36%) than in the experiencer sample (57.05%), $z = 4.14$, $p < .001$.

Questionnaire responses

A two-way multivariate analysis of variance (MANOVA) was conducted with participant type and feedback as the independent variables. The MANOVA included age, gender, and school enrollment as covariates in response to the significant differences between the samples, as reported above. This MANOVA indicated that age and school enrollment were not significant covariates, $F_s(12, 309) < 1.21$, $ps > .27$. Therefore, subsequent analyses were conducted using gender, only, as a covariate. The subsequent MANOVA revealed significant omnibus main effects of the covariate (gender), feedback, and participant type, $F_s(12, 311) > 2.52$, $ps < .004$. In addition, there was a significant omnibus Feedback x Participant Type interaction, $F(12, 311) = 1.99$, $p < .03$.

Examination of the MANOVA revealed that only one dependent measure contributed to the significant covariate: women participants reported paying significantly more attention to the transcript ($M = 8.19$, $SD = 1.77$) compared with male participants, ($M = 7.50$, $SD = 2.03$), $F(1, 322) = 18.00$, $p < .001$, $d = 0.37$. The main effect of feedback was much broader: nine dependent measures revealed significant differences. Compared with people who received no feedback, those who received confirming feedback reported remembering more certainty at the time of their decision, paying more attention to the transcript, having a better basis for their decision, making their decision more easily, making their decision more quickly, being better at making judgments about other people, predicting that their decision would have been more accurate if they saw a video instead of a transcript, being more interested in making judgments about others, and finding making judgments about others more enjoyable, $F_s(1, 322) > 4.83$, $ps < .03$, $ds > 0.26$ (see Table 1 below for means, standard deviations).

⁴ It is possible that these duplicate IP addresses represent unique participants because some internet providers give the same IP address to multiple customers. However, because we could not assess whether this was the case in our dataset, we removed participants whose IP address duplicated another. Analyses conducted on the full data set reveal similar results to what is reported here.

Table 1: Means, standard deviations, and individual statistics for questionnaire items.

Dependent Measure	Control participants		Experiencers		Main effect of feedback	Main effect of participant type	Feedback x Participant Type interaction
	No feedback	Confirming feedback	No feedback	Confirming feedback	F	F	F
Certainty	5.98 (1.83)	7.78 (1.39)	5.92 (2.71)	8.69 (1.44)	110.46***	2.99†	5.01*
Attention	7.28 (1.72)	8.12 (1.79)	8.15 (1.86)	8.43 (2.02)	9.69**	15.01***	1.89
Basis	5.26 (2.08)	6.94 (2.10)	5.47 (2.82)	7.73 (2.52)	54.33***	3.05†	1.17
Easy	5.50 (2.42)	3.88 (2.28)	5.62 (2.97)	3.37 (2.53)	45.93***	0.58	1.21
Long	3.65 (1.79)	2.74 (1.82)	3.92 (2.71)	1.87 (1.27)	44.82***	2.10	6.61**
Judgments	6.71 (1.88)	7.36 (1.90)	6.64 (2.53)	7.80 (1.79)	15.44***	0.47	1.21
Non-Verbal	7.09 (1.69)	7.48 (1.80)	7.74 (2.09)	8.11 (1.73)	3.51†	9.74**	0.00
Argumentative	7.45 (1.59)	7.27 (1.65)	6.90 (2.24)	6.60 (2.15)	1.47	9.59**	0.08
Video	7.58 (1.71)	7.72 (1.89)	7.15 (2.18)	8.13 (2.04)	6.47**	0.00	3.73*
Interesting	7.45 (2.24)	7.72 (2.33)	5.36 (3.13)	6.74 (3.21)	7.69**	21.87***	3.41†
Enjoyable	5.63 (2.55)	6.05 (2.44)	3.71 (2.87)	4.61 (2.93)	4.83*	29.81***	0.66
Future	7.58 (2.22)	7.31 (2.42)	5.67 (2.96)	6.96 (2.93)	3.41†	11.31***	7.18**

Note. $p < .10$ denoted by †, $p < .05$ denoted by *, $p < .01$ denoted by **, $p < .001$ denoted by ***

There were also several significant effects for participant type. Compared with control participants, experiencers indicated that they paid more attention to the transcript, reported being better at interpreting non-verbal behaviors, thought that the couple's conversation was less argumentative, were less interested in making judgments about others, found making judgments about others less enjoyable, and were less willing to participate in similar research in the future, $F(1, 322) > 9.74$, $ps < .002$, $ds > 0.33$.

The primary question in this experiment was whether experiencers would demonstrate memory distortion to a greater extent than control participants. The hypothesis that experiencers would demonstrate greater susceptibility to memory distortion was supported by significant univariate interactions on reports of how certain participants recalled being at the time of their decision, $F(1, 322) = 5.01$, $p = .03$ and how long their decision took, $F(1, 322) = 6.61$, $p = .01$. There were also significant interactions on participants' reports of whether seeing a video would have affected the accuracy of their decision, $F(1, 322) = 3.73$, $p = .05$; and whether they would be willing to participate in similar research in the future, $F(1, 322) = 7.18$, $p = .008$. Finally, there was one marginally significant interaction on participants' reports of how interesting it is to make judgments about other people, $F(1, 322) = 3.41$, $p = .06$.

All of the interactions demonstrated that the effect of confirming feedback was more pronounced among experiencers than among control participants. For example, consider the interaction on participants' reports of how certain they recalled being at the time of their decision. The simple main effects of participant type revealed that when participants did not receive feedback, the reports of experiencers ($M = 5.92$, $SD = 2.71$) and control participants ($M = 5.98$, $SD = 1.83$) were equivalent, $t(170) = 0.17$, $p = .87$, $d = 0.03$. This result indicates that, in the absence of feedback about their decision, the two groups of participants had similar recollections about their certainty regarding the decision they made. However, when confirming feedback was introduced, these two groups of participants no longer produced equivalent responses. Instead, experiencers' reports were inflated compared with control participants. Experiencers reported recalling that they were more confident in the accuracy of their decision when it was made ($M = 8.69$, $SD = 1.44$) than did control participants ($M = 7.78$, $SD = 1.39$), $t(153) = 3.98$, $p < .001$, $d = 0.61$ (see Figure 1).

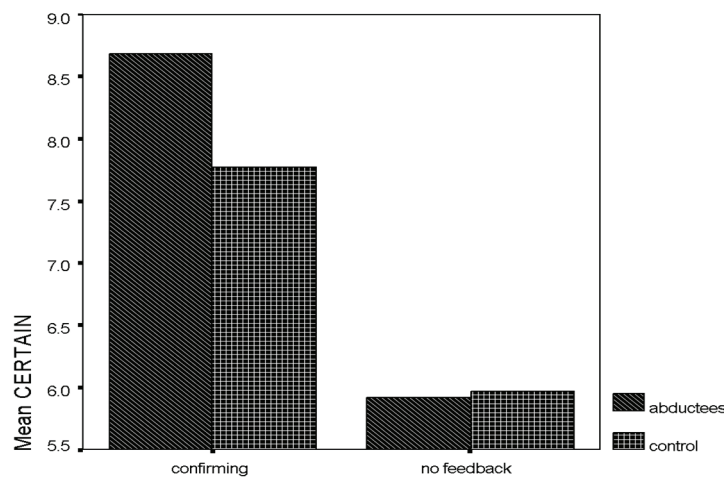


Figure 1. Two-way Interaction Between Feedback and Participant Type.

A significant Feedback x Participant Type interaction also appeared on participants' reports of how long their decision took; the pattern of this interaction was identical to the one described above for reports of retrospective certainty. When participants did not receive feedback, the reports of experiencers ($M = 3.92$, $SD = 2.71$) and control participants ($M = 3.65$, $SD = 1.79$) were equivalent, $t(170) = 0.77$, $p = .45$, $d = 0.11$. Again, the reports of the two groups were not equivalent in the confirming feedback condition. After receiving confirming feedback, experiencers reported that their decision took significantly less time ($M = 1.87$, $SD = 1.27$) than did control participants, ($M = 2.74$, $SD = 1.82$), $t(153) = 3.38$, $p < .001$, $d = 0.53$.

The two remaining significant Feedback x Participant Type interactions, on reports of how responses would have been different if a video was shown and how much participants would like to participate in future research, also demonstrated that the feedback effect was greater among experiencers than among control participants. For these dependent measures, this effect is most clearly seen by examining the simple main effects of feedback as a function of participant type. For example, among control participants, there was no effect of feedback on reports of whether seeing a video of the couple's conversation would have affected accuracy or reports of willingness to participate in future research, $ts(169) < 0.78$, $ps > .44$, $ds < 0.11$. However, among experiencers,

those who received confirming feedback reported that their decision would have been more accurate if they had seen a video and they were more interested in participating in similar research in the future, $ts(154) > 2.70$, $ps < .008$, $ds > 0.43$.

Participants also endorsed one of two descriptions of their decision process. Overall, participants were significantly more likely to endorse the option stating, “I had to think back about the conversation and reconstruct it before I could decide which person had an affair” (61.20%) versus the option stating, “As soon as I read that one of the people had an affair, I knew exactly who it was” (38.80%), $\chi^2(1, N = 327) = 16.30$, $p < .001$. In order to determine whether the pattern of responses to this question differed for experiencers versus control participants, a chi-square test for homogeneity was conducted (see Table 2 for frequencies).

Table 2. Frequencies for Endorsement of Decision Process Question

	As soon as I read that one of the people had an affair, I knew exactly who it was.	I had to think back about the conversation and reconstruct it before I could decide which person had an affair.	Total
Experiencers	78	105	183
Control participants	64	130	194
Total	142	235	377

This test revealed a marginally significant effect, $\chi^2(1, N = 327) = 3.65$, $p = .056$. To determine whether this effect was consistent with the results indicating that feedback affected experiencers more than control participants, a one-tailed z test for the equality of proportions was conducted. This test compared the frequency of control versus experiencer participants who endorsed the option indicating that they knew which person had the affair immediately after they were told, revealing that a significantly larger percentage of experiencers (44.23%) endorsed this option, compared with control participants (33.91%), $z = 1.92$, $p < .05$, one-tailed.

Discussion

People who have reported contact with extraterrestrial beings (experiencers) and college students (controls) read a transcript from a fictitious couple’s counseling session and then made a decision about which member of the couple had an affair. After making their decision, participants were randomly assigned to learn that their decision was correct (confirming feedback) or learn no information about the accuracy of their decision (no feedback). As predicted, both experiencers and control participants who learned that their decision was correct distorted their retrospective judgments. People who received confirming feedback inflated reports of the event (e.g., they reported paying more attention to the transcript), the decision (e.g., they reported that the decision was easier and took less time), and their general preferences (e.g., they reported less enjoyment in making judgments about others, in general).

Because participants were randomly assigned to receive feedback and because the questionnaire concerned events (or opinions) that happened (or existed) before feedback was administered, participants' reports on these questions should not have differed across the two feedback groups. For example, due to random assignment, participants in the confirming feedback and no feedback conditions should have reported equivalent levels of retrospective certainty. Instead, participants who received confirming feedback clearly demonstrated memory distortion by remembering that they were more confident at the time of their decision, compared with people who received no feedback. One explanation for this effect is that people do not consider the judgments represented on the questionnaire until they are asked about them. At that point, people cannot answer the questions without considering what they know about the accuracy of their decision (i.e., the feedback). Therefore, it is easy to see why answers to questions such as "How certain were you at the time of your decision?" are distorted by feedback (e.g., Steblay, Wells, and Douglass, 2014).

The primary goal of this experiment was to test the hypothesis that memory distortion in this social judgment paradigm would be greater among experiencers than among control participants. Retrospective certainty judgments provide a clear example of how this hypothesis was confirmed. In the no feedback condition, experiencers and control participants reported equivalent levels of retrospective certainty. In the confirming feedback condition, although both groups produced inflated judgments, the inflation observed in the experiencer sample was significantly larger than in the control sample. The interaction between feedback and participant type supports the possibility that susceptibility to confirming feedback is one explanation for how a tentative suspicion of extraterrestrial visitation becomes a confident memory for such an event among experiencers. As demonstrated here, experiencers and control participants' initial decisions were tentative: certainty ratings were mid-range for all participants in the no feedback group. However, when confirming feedback was administered, experiencers remembered being much more confident in the accuracy of their decision than did control participants.

The effects observed on retrospective certainty reports are problematic because certainty is directly related to beliefs about the accuracy of one's own memories (e.g., Hyman and Billings, 1998). Therefore, the malleability of experiencers' retrospective certainty reports could compromise their ability to judge the accuracy of their own memories. This might have broad effects on mental health because, as some researchers suggest "a belief in the accuracy of...one's own recollections is probably crucial to mental well-being" (Ross and Newby, 1996, p. 173). Certainty reports are also indispensable in judgments about the accuracy of others' memories in such myriad contexts as recovered memories of childhood sexual abuse (e.g., Garry and Polaschek, 2000; Porter, Yuille, and Lehman, 1999), flashbulb memories (e.g., Talarico and Rubin, 2003), and eyewitness identifications (e.g., Douglass and Jones, 2013).

Inflated certainty reports are the most prominent of a constellation of judgments used to assess the accuracy of others' memories. Two other judgments that are used to evaluate accuracy were inflated more for experiencers than for control participants: reports of how long the decision took and endorsement of the decision as automatic (rather than the result of a deliberative process). Observers often use the speed of a decision as a cue to accuracy, so the effects observed here might have implications for the willingness of people to believe experiencers' post-feedback memories (e.g., Dunning and Stern, 1994).

Why are experiencers more susceptible to the effects of feedback than control participants? One possibility is that experiencers have a predisposition toward unusual cognitive experiences such as “blacking out” or losing time (i.e., dissociation, e.g., Powers, 1994; Ring and Rosing, 1990). Indeed, “missing time” is one of the most common symptoms reported by experiencers (e.g., Bullard, 1987; Kelley, 1999; Kelley-Romano, 2004) and is believed to be a strong indicator that abduction has taken place by researchers and experiencers alike (e.g., Hopkins, 1981). Research on non-experiencer samples indicates that people who tend to dissociate are particularly susceptible to memory distortion regarding false events (Hyman and Billings, 1998), misleading questions (Eisen and Carlson, 1998), and word lists (Winograd, Peluso, and Glover, 1998).

Another explanation for the results obtained in the current research relates to integration of new information. Research shows that people simultaneously comprehend new information and accept it as true (Gilbert, Krull, and Malone, 1990). After information is accepted, effortful thinking is required to reject it. Perhaps the process of engaging in effortful thinking required to reject the tentative suspicion that extraterrestrial visitation has occurred is truncated among experiencers especially in an age where myriad sites about alien abduction and visitation are available online. This is a reasonable possibility because belief in UFOs is positively correlated with cognitive disorganization (Chequers, Joseph, and Diduca, 1997), assessed by questions such as “Do you get easily confused if many things happen at once?” (Rawlings and MacFarlane, 1994, p. 492). Future research will be needed to establish whether reports of actual extraterrestrial contact are correlated with cognitive disorganization and whether this impairs people’s ability to reject false information. Such investigations might also consider whether experiencers’ general ability to disregard information is impaired (e.g., see Wegner and Zanakos, 1994 for a scale used to measure suppression of unwanted thoughts).

The experiment most closely related to the current research, Clancy et al. (2002), argues that source monitoring errors explain increased memory distortion among experiencers (e.g., see Johnson, Hashtroudi, and Lindsay, 1993). Source monitoring errors are not an appropriate explanation for the results observed here because participants were not asked questions that required them to identify the source of a memory (i.e., “Was this word presented on a previously-studied list or not?”).

The current research compiled one of the largest samples of experiencers ever tested in a memory distortion experiment. Previous research on alien experiencers has included only small sample sizes (e.g., 20 in Clancy et al., 2002; 49 in Spanos et al., 1993) or large sample sizes with data collection taking place over very long periods (e.g., 225 participants in 17 years, Parnell and Sprinkle, 1990). Furthermore, Parnell and Sprinkle (1990) and Spanos et al. (1993) included people who sighted UFOs; our sample only included people who report actually being contacted by extraterrestrial beings.

The large sample of experiencers tested here displayed several interesting characteristics. For example, compared with control participants, experiencers reported less willingness to participate in similar research in the future, less interest in making judgments about others, and less enjoyment in making judgments about others. These results are consistent with evidence that experiencers are “overly sensitive to criticism, and ...tending toward personalizing the actions of others toward themselves” (Parnell and Sprinkle, 1990, p. 51). Perhaps this tendency extends to disinterest in

making judgments about others. Additionally, as people who often perceive themselves to be unfairly, and harshly judged by others, their reluctance makes sense. However, it is interesting to note that even though experiencers report not liking to make judgments about others, they nonetheless indicated that they paid more attention to the transcript and are better at making such judgments, compared with control participants. The latter claim is consistent with research showing that a vast majority of experiencers claim to have psychic abilities (94% in one study, Kelley-Romano, 2004, see also Bartholomew et al., 1991) and report being more conscientious than control participants (Hough and Rogers, 2004). Additionally, experiencers often report that a consequence of their extraterrestrial interactions is heightened self-awareness and perception (Kelley-Romano, personal correspondence).

One limitation of this research is the fact that control participants were not directly assessed for alien contact experiences. We did not include a question probing for contact with aliens because doing so might have made control participants suspicious about the nature of the experiment. However, the likelihood that any more than a handful of participants would have reported contact with extraterrestrials is small. Although survey data indicate that up to 48% of the general public believes in UFOs, the number of people reporting personal experience with extraterrestrials is much smaller: 2% in one survey (Patry and Pelletier, 2001). Therefore, it seems reasonable to assume that few of our control participants would have reported personal experience with aliens. Another potential limitation of this experiment is the difference between our sample of experiencers and our comparison sample in terms of age and school enrollment. However, age and school enrollment were not significant covariates, indicating that differences on these variables did not interfere with the hypothesis being tested.

Future research on experiencers should move away from studying their pathology. Research has already focused on this question, much of which has determined experiencers to be no more pathological than the general population (e.g., Bartholomew et al., 1991; Holden and French, 2002; Spanos et al., 1993). The current research suggests a different direction for future studies of alien experiencers given the evidence presented here that experiencers' memory distortion is not limited to recollections of being abducted by aliens. Research should focus on how normal cognitive functions operate in experiencers, such as chronic suppression (Wegner and Zanakos, 1994), social contagion (Meade and Roediger, 2002), and general memory distortion. Experiencers are susceptible to a broad range of recollections related to a social judgment decision, suggesting that their lives could be infused with memory distortions well beyond what is demonstrated in their extraterrestrial contact accounts.

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It Was as Large as the Full Moon

Hans-Werner Peiniger

Abstract: The reliability of size estimations by UFO witnesses is a difficult question – we know that witnesses misjudge size, but by what factors? The author has carried out experiments with several groups of people to evaluate deviations of real apparent size in all sexes and age-groups.

Keywords: Estimations of size, Witness reliability, Apparent size of objects, Reliability of female vs male observers, Experimental UFO research

The Question

We always run into problems when, during a UFO investigation, an observer is asked to guess the size of the object he has seen in the night sky. Some witnesses give its size in meters to emphasize how strange it was. They tell the investigator that “it was as large as the full moon” or “it was 50 m long.” But no one is able to estimate the real size of a night phenomenon when it is not known what it was or without a known thing to measure the UFO against. It could have been a rather small object very close or a considerably larger object in a greater distance. In both cases, it would appear to the observer as something of the same size. Only when a comparison is possible, for example, when the object is in front of a forest, the size can be calculated. In normal sightings in the night, the investigators generally have no chance to gauge its true size, and yet they would want to have an idea of the size of the object observed.

It is helpful to document the optical impression the witness had as precisely as possible. In order to do this, the investigators of the GEP¹ ask for the *apparent* size of the object. The questionnaire contains an item to do this, and a control item, to which we will come back later. The answer is supposed to give an idea of the observed object. But – how reliable is the information the witness gives about the apparent size of what he or she has observed?

In a few cases, when the height of the cloud cover or the observational angle were known, and the object definitely was in or below the cloud cover, the apparent size allows conclusions as to the real size or rather the minimum and maximum diameter of the thing that was seen.

But more often I found that the apparent size was estimated to be far too large by the observer. Some witnesses gave sizes which, if correct, would mean that the object observed would have blocked their entire field of vision! With the 57-cm-test (an object, for example a button, is placed at a distance of 57 cm from the eye of the witness – would it have covered the UFO?) or a test using a known object at outstretched arm length I heard size estimates that were manifold higher than they should have been.

I very soon realized that the estimates the witnesses make have to be reduced considerably. Other UFO researchers have confirmed this.

¹ GEP is the acronym of Gesellschaft zur Erforschung des UFO-Phänomens (Society for the Study of the UFO Phenomenon): <https://www.ufo-forschung.de/>

But by what percentage or amount do we need to reduce the estimates? I wanted to gain more precise figures by a statistical analysis of estimates of the apparent size of the sun and the full moon. The full moon and the sun, after all, are often observed. I thought that witnesses would be able to pretty precisely judge their apparent size.

I established a questionnaire and – with the help of the Mannheim-based group CENAP – asked relatives, friends, acquaintance, neighbors und visitors to our lectures to tell me the apparent diameter of the moon and the sun. The subjects had to remember how both bodies looked, and then stretch their arms, holding a folding rule, and say how big it was. The questionnaire also recorded the sex and the age of the person.

The Results of the Study

All in all, we asked 238 people, 146 male and 92 female. The age distribution is shown on Figure 1:

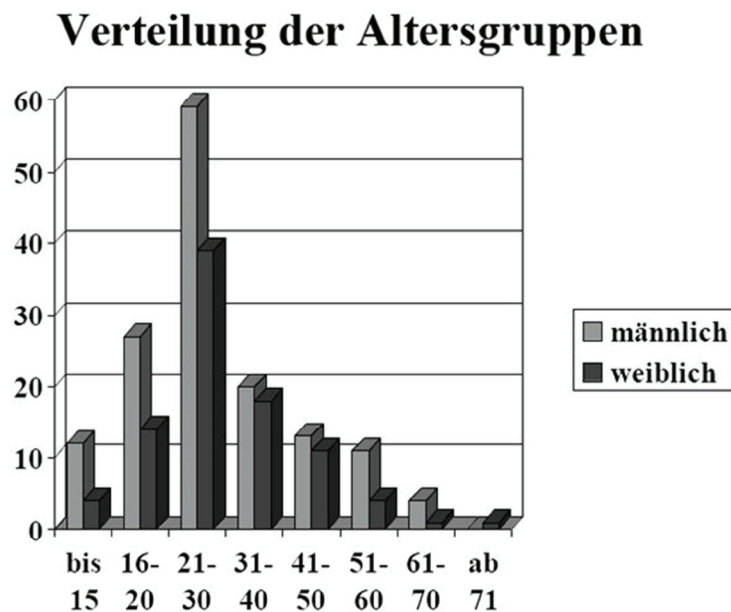


Figure 1. Age groups – grey: male, dark: female

It is evident that not many people were interviewed in certain age groups for a more thorough statistical analysis. Not all results will therefore be representative. It is also known that the full moon can appear to vary in size against the night sky. It looks larger close to the horizon than high in the sky. This well-known perception error (the size does not actually vary), however, can be neglected given the expected differences in estimates. The following statements are not statistically precise, but they show general tendencies.

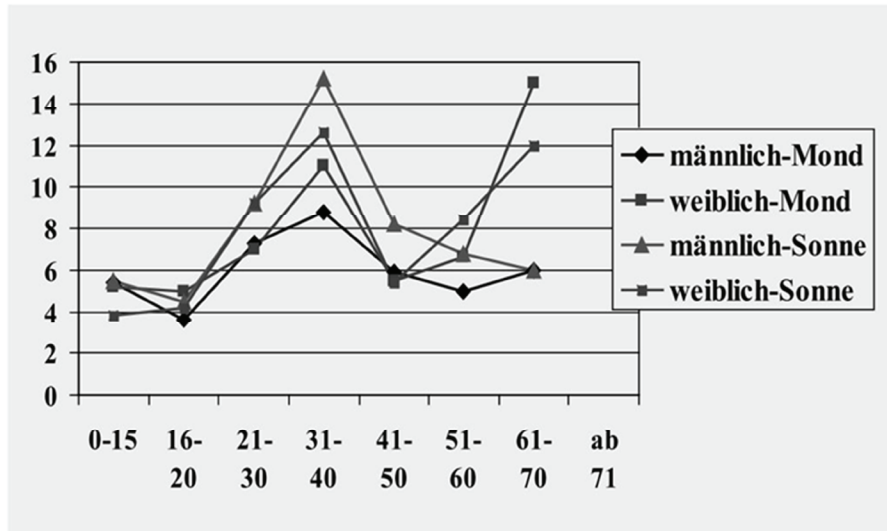


Figure 2.
Lines from top to bottom:
male – moon
female – moon
male – sun
female – sun

Figure 2 shows the relationship between the age groups and their average diameter estimates. In the age up to 20 years, the values are similar, but there is a major difference up to the age of 40 years. We see that the male subjects tended to grossly overestimate the size of the sun, but were lowest when it came to estimates of the size of the moon. This may be the result of the bright sun appearing to be larger to males. Women also show a certain tendency for overestimating the size of the sun. If these figures are confirmed by a larger number of subjects, we could possibly conclude that the age group between 20 and 40 years generally tends to judge the apparent diameter of bright objects larger than that of less bright objects. At ages 41–60, both sexes estimate similar values for the diameter of the sun, though males tend to guess higher values. With increased age, males tended to judge better than females. Those informants from 61 to 70 again approached the values given by those of ages up to 15 years.

We can also see that the estimated sizes start at a diameter of 4 cm. However, the actual apparent diameter of the full moon and the sun is at 0.5 cm. The diagram shows how much the size is estimated above the real value.

Looking at those diameters the different sexes most often guessed, we see that men generally reported moon sizes of 1.6 to 2 cm. The sun was judged to be somewhat larger, between 2.6 and 3 cm. We have a similar situation with the female respondents. Up the size of 3 cm the respondents still gave several intermediate sizes, after that, only round figures.

Using all data (Figure 3) we see that of the 238 people interviewed only 8 gave an estimate of numbers up to 0.5 cm, and 37 people guessed at values between 0.6 and 1 cm. That means that only 20 per cent of all people who took part responded with an estimate below 1 cm. Almost 32

per cent gave values between 2.6 and 3 cm. 91 people (or 38 per cent) guessed values well over 8 cm. I have heard figures of 1 meter! I assume these were people who just could not understand what I wanted them to do. Some put the yardstick away and said, “I do not need such a help”, while they attempted to estimate the diameter with both arms outstretched – which resulted in grossly overestimated values.

Absolute Durchmesserangaben

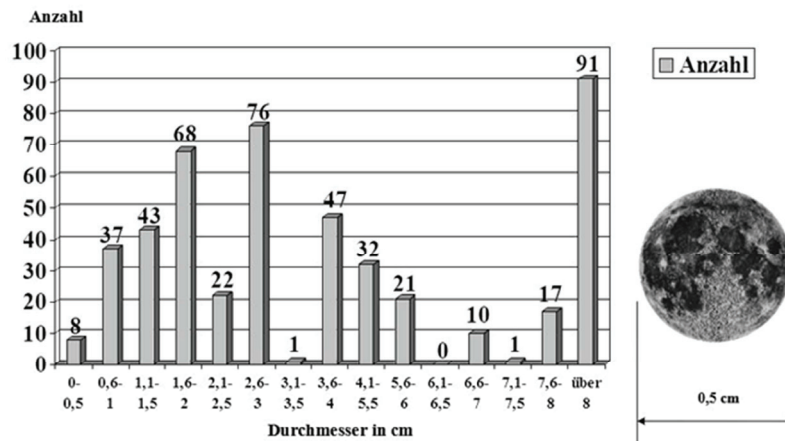


Figure 3. Diameters evaluation in absolute figures – numbers.

Of the 238 people 32 gave the same value for moon and sun, even if they guessed wrongly. The moon on average was estimated at a diameter of 7.05 cm, the sun – with an average of 7.98 cm – slightly larger. Combined, this results in an average of 7.5 cm. This is 15 times of the real 0.5 cm. We can see that estimates of size which UFO witnesses tell us are not accurate.

What can we conclude from this exercise? First of all, our inquiry has shown that bright objects will be judged larger than darker objects. This had already been known in the psychology of perception as irradiation illusion. A light patch on a dark background looks larger than an otherwise identical dark area over a light background. I have further concluded that the apparent diameter of the relatively well-known and often seen celestial bodies such as moon and sun are judged, on average, to be 15 times larger than they actually are. Obviously, we have to ask ourselves how far out estimates are when we are dealing with an unknown object seen only for a very short period of time. One feels that the errors may be even higher. And the longer the time that has passed between the observation and the investigation, the more uncertain the estimates will be. The only exception will be those cases where the witness has actually noted parts of buildings or of the landscape and judged the apparent size in comparison. This can also be done on field investigation trips.

I do not conclude that the size estimates we hear from witnesses should automatically be reduced by a certain factor. However, the result of this study should make us field investigators help consider the size estimates critically. The GEP has added a control item asking for the apparent size of the full moon to its questionnaire, in order to judge estimation errors by individual witnesses. In field investigation, one can ask the observers to judge certain features of the

landscape. Conclusions from a sighting report should always be drawn keeping these facts in mind.

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(Translated from German by Ulrich Magin).

When a Fire Balloon Transforms into a UFO

Hans-Werner Peiniger

Abstract: The question of the reliability of eyewitness descriptions of unusual aerial events sits at the core of UFO data. The author has conducted a simple experiment to evaluate the accuracy of eyewitness descriptions of unusual optical stimuli.

Keywords: Verbal description, Accuracy, Drawing, Accuracy, Scientific evaluation of accuracy, Experimental test.

The Question

We often face the question of how closely a witness's *description* of an object in the sky coincides with the *actual* stimulus. Will perceptual errors and ideas from popular books and television programs or an interest in UFOs distinctly distort any reports of such an experience, thereby making an exact reconstruction of the object impossible? These were our concerns.

In order to learn more, I conducted a little experiment. It was never meant to be a representative study and the results would therefore reflect some uncertainty. I was sure, however, that these tendencies should nonetheless be considered during future case investigations.

We conducted the experiment in partnership with both the Central Research Network for Extraordinary Celestial Phenomena (CENAP) in Mannheim, Germany, and meteorologist Dr. Alexander Keul at University of Salzburg. Headed by me, the research project attempted to determine how much we can rely on the perception of eyewitnesses. I organized the experiment and provided the materials necessary to carry it out. All groups involved followed the same protocol to ensure safeguarding, while Dr. Keul was responsible for the analysis briefly outlined below.



Figure 1: Photo of fire balloon.

The Experiment

At different occasions, a group of several people were shown a color transparency of a fire balloon in the sky (see Figure 1: Photo of fire balloon) for 10 seconds. Other people were shown a color print of the same photo in the size A4, also for 10 seconds.¹

The participants were then asked to fill out a small questionnaire and draw a sketch of the object. All in all, we had 128 finished questionnaires, 100 of which were the result of tests in groups of about 25 people each.

The Aim of the Experiment

Previously published English, American and Austrian studies have shown that witnesses often report a wide range of assertions to describe objective facts. Some report a 10 second experience lasting only 5 seconds, while others report the same incident lasted 20 seconds. Because these subjective components varied so widely, the results had to be checked or otherwise improved by increasing the number of participants.

The following analysis by Dr. Keul is based on four experiments using color slides and data collected by way of 97 questionnaires. One experiment was conducted by Werner Walter of CENAP, using data collected from 28 subjects, another was conducted by Walter L Kelch in Koblenz using 23 subjects, a third was completed by Edgar Wunder using 24 subjects who attended a skeptical lecture, and the fourth was conducted by the author of this report (Hans-Werner Peiniger) using 20 subjects who attended a meeting. At all these occasions, people were aware that their response to a simulated sighting was tested. The Walter group consisted of 24 men and only 4 women ranging in age from 10 to 52 years (average 22.2). Thirteen were young students, 4 were university students, 3 were employed in technical professions, and 2 were commercial employees. The Kelch group consisted of 22 men and one woman aged 20 to 29 years (average 22.7 years), employed in a wide variety of professions. The Peiniger experiment included data from 18 men and 2 women, aged 23 to 66 years (average 35.9), employed in a variety of professions. The Wunder group consisted of 14 men and 9 women (plus one subject questionnaire that was missing gender specification). Ages ranged from 11 to 19 years, all of them young students. Not all participants filled out each item in the questionnaire so that figures might not add up to the totals.

Estimates of Duration

As indicated above, the color slide was shown for exactly 10 seconds. This period was then estimated by the participants as shown in Table 1 (estimated duration).

Table 1: estimated duration.

Group	Estimated duration	Average
Walter	4 to 20	9.8
Kelch	4 to 30	12.0
Peiniger	1.5 to 30	9.2
Wunder	2 to 30	7.5*

* Test announced in advance, without the element of surprise

¹ Size A4 is the standard paper size of 210 mm x 297 mm used worldwide, except for North America and Canada.

All four groups show similar results. Some of the subjects overestimated the period excessively, while others underestimated the period by an equally excessive amount. The results are spread over a significantly wide range. We could, however, easily calculate an average value that was much closer to actual conditions. One possible conclusion is that with single witnesses we should expect considerable mistakes in the estimate of duration, while larger groups of witnesses tend to reveal more accuracy in the average value.

Quality of the Description

We asked the participants to write a short verbal description of what they had just seen. As Dr. Keul did not want to waste time conducting a qualitative analysis which could go on interminably, he simply divided the texts according to the following rating scale: a very good match between photo and description is assigned 1, a good match between photo and description is 2, neutral (wishy-washy descriptions) are rated 3, a moderate match between photo and description is assigned 4, and a clearly faulty match between photo and description is rated 5. Table 2 (Quality of verbal description) shows the results for the individual groups, and Figure 2 (Quality of verbal descriptions), with 92 statements, average value 2.8, represents those of all the participants.

Table 2. Quality of verbal description.

Group	1	2	3	4	5	Average
Walter	0 x	10 x	17 x	0 x	0 x	2.6
Kelch	0 x	8 x	14 x	1 x	0 x	2.7
Peiniger	2 x	6 x	5 x	5 x	3 x	3.0
Wunder	0 x	2 x	17 x	20 x	0 x	3.0

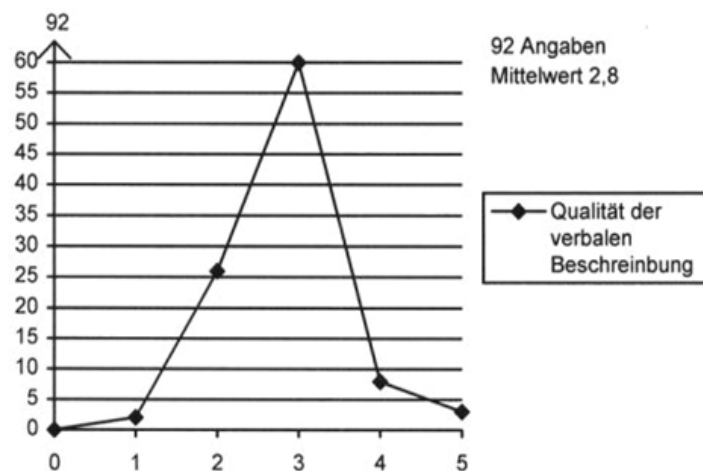


Figure 2. Quality of verbal descriptions. 92 statements, average value 2.8.

In his analysis, Dr. Keul states, “This general (and subjective) classification of the verbal descriptions of the object shows that very good descriptions are as rare as reports that are completely wrong. Most are either good or wishy-washy.”

Quality of the Sketches

The participants were also asked to sketch what they had seen. The groups of Walter and Peiniger did this in black and white, while the Kelch and Wunder groups used crayons of various colors. Here, the same evaluation system was applied. How much did the sketches resemble the photo? Very good, excellent, or many details is rated 1; good is rated 2; wishy-washy is 3; moderate, without details is 4; and completely wrong is 5. This analysis (without regard to the colors, which were not present in two of the groups) resulted in the values shown in Table 3 (Quality of object sketches). Figure 3 (Quality of witness sketches), with 89 statements, average value 2.8, shows the values addressed by all participants.

Table 3. Quality of object sketches.

Group	1	2	3	4	5	Average
Walter	0 x	8 x	9 x	7 x	4 x	3.3
Kelch	2 x	9 x	8 x	4 x	0 x	2.6
Peiniger	1 x	5 x	9 x	5 x	1 x	3.0
Wunder	0 x	9 x	8 x	4 x	0 x	2.8

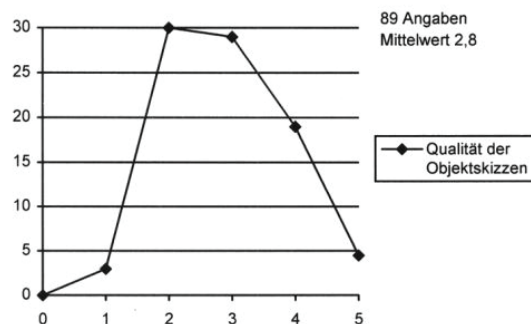


Figure 3. Quality of witness sketches. 89 statements, average value 2.8

In the evaluation of sketch accuracy, the outlines of the object as well as the object’s details were all considered. Dr. Keul concluded that there were no significant differences from the evaluation of the verbal descriptions. There were a few excellent sketches and there were a few that were completely wrong. Most of the sketches could be classified as good or moderate.

Upon calculating the percentages of good and very good verbal accounts and sketches, we arrive at the following values delineated in Table 4:

In the Peiniger group: 8 subjects identified it as having a conventional-technological origin (including 1 subject who identified it as a balloon); 4 had no idea what the object was; 5 identified it as a natural phenomenon; and 3 identified it as a UFO.

In the Wunder group: 18 subjects identified it as having a conventional-technological origin (including 1 subject who identified it as a balloon); and 2 identified it as a natural phenomenon.

Therefore, the majority of subjects correctly affirmed that the object observed could be identified as having a conventional explanation.

The study of the quality of witness reports has essentially confirmed the previous studies from Britain, the US, and Austria. Dr. Keul has summarized the most important results for critical UFO investigation as follows:

“Groups of people who are asked to judge an ‘exciting’ span of time tend to spread far and wide. Only an average value can be used for accuracy.

“Verbal descriptions and sketches of the object tend to be ‘moderate’ in their majority (from good to wishy-washy). Only one-third to one-half can be considered accurate, but which data-set should be affirmed? A good description can only be achieved in the statistical analysis of group reports, and should never be affirmed accurate when there is only a single witness.”

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(Translated from German by Ulrich Magin.)

Bedtime Alien Abduction Stories: A Checklist to Detect its Dreaming Nature

Michael Raduga

Abstract: This paper attempts to understand the nature of the phenomenon of bedtime alien and UFO encounters (AUEs) reports. At least two empirical studies have shown that encountering alleged (i.e., interpreted as) extraterrestrial beings just before or after sleep is replicable by will: such phenomena could be related to lucid dreaming. If this interpretation is correct, bedtime AUEs could be explained. In this paper, a list of possible markers of such testimonials is listed and discussed.

Keywords: Lucid dreams, Out-of-body experiences, Alien visitations, Alien abductions, UFOs

Introduction

People have believed in the existence of extraterrestrial civilizations for a long time (De Fontenelle, 1686). Even Stephen Hawking thought it was impossible for us to be alone in the universe (1998). As a matter of fact, alleged witnesses of an interaction with aliens originate from the 19th century (Colvin, 2004). It is well known that mass media presents hundreds of reports of UFO sightings every year. However, none of these reports provide any evidence of actual aliens (or their spacecraft) visiting our planet. This begs the question of what the nature is of all these testimonials.

Alleged alien and UFO encounters (AUEs) may happen any time of the day, but they often occur when one is in a state of relaxation, sleep, or sleep paralysis (SP) (Basterfield, 2005; Stockton, 2018). Blackmore and Cox (2000) analyzed 12 alien abduction cases, and SP occurred more often among individuals who experienced alien abductions than among individuals in two control groups. Many other studies have also related AUEs to SP (Holden and French, 2002; McNally and Clancy, 2005; Siddiqui, Qureshi, and Ghamdi, 2018). In one study, LaBerge and Gackenbach suggested that lucid dreams (LDs) might also be responsible for some AUEs (1988). Green also found several other arguments to support this connection (1990). Today, LD practitioners even use the *alien abduction technique* in their practice (Raduga, 2014).

In this paper, SP and LD will be referred to using the term phase state (PS), which also includes out-of-body experiences and false awakenings. These, along with several other phenomena, have a similar physiological nature—specifically, they are characterized by the arousal of consciousness during REM sleep. Reports show that 88% of the human population has experienced at least one of these phenomena at least once (Raduga, Kuyava, and Sevchenko, 2020).

The theoretical correlation between bedtime AUEs and PS was not empirically investigated until 2011, when 20 volunteers were instructed to enter PS and then try to experience an AUE for three consecutive days. Over the next 14 days, seven volunteers accomplished the goal (Raduga, 2011). A similar study was conducted later with a much bigger sample. In an online experiment, 152 PS practitioners (mostly LD practitioners) were instructed to induce PS by any technique and try to find UFO or alien visitations. After one or more attempts, the volunteers had to report

the outcomes. The hypotheses were as follows: AUEs could be achieved in PS and SP, with fear being more prevalent among cases with less paradoxical events (i.e., events similar to reality in terms of emotional perceptions). The task was relatively easy for the volunteers to achieve, as 114 (75%) experienced AUEs. As expected, SP and fear were correlated with more ‘real’ cases ($P = .004$).

More detailed results of the study include the following: “For 61%, ‘aliens’ looked as expected from fiction movies and books; for 4%, ‘aliens’ were invisible, but the volunteers somehow knew it was them; for 19%, ‘aliens’ looked like ordinary people, but the volunteers somehow knew it was them; for 39%, only visual contact with ‘aliens’ was experienced; 26% managed to talk with ‘aliens’ but did not have any physical contact with them; 11% encountered physical contact with ‘aliens’ but did not talk to them; 12% talked to ‘aliens’ and had physical contact with them; 28% encountered UFOs; 10% were inside a UFO at some point; and 3% flew in a UFO.” These data are depicted in the following table showing the “features of successful AUEs”:

Features	AUE paradoxical status		Total ($N = 114$, 56 females, 58 men)
	Improbable ($N = 91$, 45 females, 46 men)	Probable ($N = 23$, 11 females, 12 men)	
Sleep paralysis	2 (2%)	3 (13%)	5 (4%)
Fear	19 (21%)	6 (26%)	25 (22%)
Sleep paralysis and fear	0 (0%)	3 (13%)	3 (3%)
Sleep paralysis or fear	21 (23%)	6 (26%)	27 (24%)
‘Standard’ aliens	54 (59%)	16 (70%)	70 (61%)
Invisible aliens	3 (3%)	1 (4%)	4 (4%)
Humanlike aliens	19 (21%)	3 (13%)	22 (19%)
Only visual contact	34 (37%)	10 (43%)	44 (39%)
Talking	36 (40%)	8 (35%)	44 (39%)
Touching	20 (22%)	7 (30%)	27 (24%)
Talking and touching	10 (11%)	4 (17%)	14 (12%)
UFO encounter	29 (32%)	3 (13%)	32 (28%)
Inside UFO	12 (11%)	0 (0%)	12 (11%)
Fly in UFO	3 (3%)	0 (0%)	3 (3%)

Notes: AUE = alien and UFO encounters; Improbable = AUE that had more paradoxical dreamlike events; Probable = AUE that had less-paradoxical dreamlike events.

The actual list of less-paradoxical AUE reports with skipped PS entries and PS endings follows. Extracted from Raduga, Zhunusova, and Shashkov, 2021, after translation from Russian:

Report #3. February 18, 2019 (Female)

I went to the living room, imagining that they were there, but they were not there. Then, I went out onto the porch and began going down to the street, with clear certainty that they were there. I opened the doors (I opened them with purpose but didn’t go through), and, yes, a group of three

little people stood in my yard. Only on the large lawn on the left, where the playground is located in real life, there was a flying saucer. I felt no fear, only interest. Little men with smooth skin of blue color, human height, with non-standard large heads and huge, bulging eyes of black color. Their arms were long. Their fingers were also elongated, four fingers on each hand. I went up, and the phrase 'Don't be afraid; we are friends' appeared in my head, which I clearly heard, considering it to be telepathy. Only one being contacted me – apparently, he was their 'leading specialist.' The rest (two) stood behind and did not come up. The alien came up and scanned me with some object that looked like a roulette for walking dogs, but from inside it came a ray of bright blue light. I watched with interest while rubbing my hands and blowing into my palms. After that, he took my left hand and brought a long glass rod to the inner bend of my elbow (I didn't feel anything, but a red liquid that reminded me of blood appeared in the rod). By the way, the skin of his hand was rather cold. I bit my lip and tongue. Next to the other two was a small hairless dog who bounced merrily. Her skin was lilac (marvelously). After all the procedures, I was invited to the ship with a gesture of a long hand (I still thought about what aliens I had brought up). As soon as I approached him, I was blinded by a very bright light, like from a searchlight. My vision was gone, and I felt dizzy and light. I tried to cope with this condition but failed.

Report #14. May 9, 2019 (Male)

I began to listen, wanting to hear aliens outside the door. Almost immediately, I began to hear their unnatural grunts. I didn't imagine their appearance since it would be interesting to see what my brain would make up for me. With the confidence that by opening the door, I would see the aliens there, I immediately did it. A shock was waiting for me outside the door! All the walls of the hall were in some kind of greenery from which hung either a dark green web or algae. In the center, there was a round table in the form of a super-technological lens, inside of which one could see the flickering of ornaments (apparently their writing). Two azure-colored organisms stood on two sides of the lens. Each one had one huge oval eye, arranged vertically. They had no limbs; they were only pulsating bodies that levitated 5 cm above the floor. Both aliens gazed at me as they kept making sounds, which I heard even outside the door. After 8-10 seconds, a lot of thin tentacles reached me from the body of one of them. It was very creepy. Nevertheless, I grabbed several of them with both hands, immediately sensing an electric shock. From this, my vision darkened, and I was in a state of sleep paralysis with subsequent awakening.

Report #37. September 19, 2019 (Female)

I thought I should look for them. I went outside looking around, and then I saw that three aliens were coming to my house. I saw them pretty easily. They were taller than the fence, about three meters tall. I was terrified. They looked creepy: gray, thin, and tall with big eyes, and they walked smoothly, as if they were flying. Everything around was also gray, somewhat ominous, like twilight. As I approached them, I was overcome by an animalistic fear. I turned away, trying to calm myself, but then I realized this was just a phase, and I wasn't scared. I turned and saw that everything had become bright, and instead of the creepy aliens, there were green and not scary people. I walked over, starting to touch and stroke them. They were as ebony to the touch, like scaly, rough skin. On the head, for some reason, they had a yellow stripe. They tried to talk to me, but I did not understand them.

Report #57. December 7, 2019 (Male)

I deepened the phase a little and, imagining that extraterrestrial beings were waiting for me in the room, went into the room. There was nobody there. Then I imagined more vividly that they were in the kitchen. I heard sounds coming from there, took courage, and entered. My wife stood there and was washing the dishes, and on the stove, there were pieces of bacon being fried in oil

(although we are both vegetarians). But I did not give up, and, in order to better convince myself, I asked my wife to come up to me and said that there were aliens behind the front door. Together, we went to the door. I looked through the peephole, saw only some blurry shadows, and heard a sound. I opened the front door; it hit someone. I felt a little scared, but I looked behind it and saw two women – my mother and her sister. Why them, I don't have a clue. Frustrated, I began just to call for aliens aloud, as if I was trying to meet a specific person, but having not achieved success, I stopped it and started doing other things...

... Having made my sensations more vivid, I decided to try again. I ran out onto the staircase and went to the door leading to the shared balcony. I imagined the spacecraft flying out there illuminating everything with bright light, and aliens emerged from it. Focusing on this image, I went out onto the balcony, but I saw there, from nowhere, an iron staircase leading down, which someone was going down, looking like quite a man in a blue jacket. I called him several times, but he did not reply. Having focused all my attention on him, I was able to better examine the details and it made my sensations clearer despite the fact that the character was far away. In the end, he turned his head. He turned out to be an Asian; he looked Japanese. I went down to him and asked if he was an alien. He shook his head affirmatively and said that he was not supposed to talk to me and that, in general, he did not see me but only heard me. Then, it was all over.

Report #62. December 16, 2019 (Male)

I thought that people were usually abducted from bed, so I did not get up and was in no hurry. I closed my eyes and was dragged somewhere by flight while lying down as if I were pulling a beam like in films. I lost the feeling of touching the bed. I thought that now it would drag me through the walls, and it happened. But gradually, the fear intensified, and, knowing my imagination, I was afraid that aliens might be waiting for me. Having flown only a bit, I did not reach the end and woke up again falsely. Opening my eyes, I again saw the outline of my dark room, and then a white silhouette began to approach from another room. It was a humanoid, as if in a silver suit. I didn't see the face, that is, with the same success it could be a man, but since I expected an alien, I thought it was an alien. The clarity of the phase was quite low, at 60%. He came to me, then left again like a reverse action and did this several times. I was already terribly uneasy. I closed my eyes to get rid of this. Then he cried out, I opened my eyes, and he was already opening my chest and doing something inside with tools. I was completely scared, and in my head, there was only one thought – to finish the phase as soon as possible; it was terrible. At this moment, I was stuck in paralysis, I floundered, trying to move, but failed. As a result, I woke up and couldn't fall asleep for a long time.

Report #75. January 8, 2020 (Male)

I appeared in a large meeting room. There was no light, but the rows of armchairs were briefly visible. I sat in one of them, and a light appeared. Aliens were sitting in the hall; there were 8-10 of them. I got up and went to look at everyone. They all looked like people but with different skin colors. One was blue; one was gray. There was one with charcoal black skin.

Report #80. January 19, 2020 (Female)

I ran to the door and around the corner along the corridor, shouting, 'Aliens! Where are the aliens? I urgently need aliens!' She herself imagined that they would appear around the corner. Around the corner, blocking the exit to the street, there was a group of sprites of a completely human nature. 'You,' I say, 'aliens?' Some denied it, but one who stood at the door admitted, 'Yes, I'm an alien.'

I look at him. Tall (approximately 1 m 90 cm). His face is round, his eyes slanting a little – not like a Chinese person, but somehow unfamiliar. The neck is perhaps a little long for a man, and

the shoulders are too round. The rest of the appearance is human. Gray eyes, dark hair, skin color closer to dark. A brown leather jacket with knitted inserts and a hint of a uniform.

Further such dialogue:

– Where are you from?

– Alpha Centauri.

– But why did they immediately come up with Alpha Centauri? Couldn't they come up with nothing more original? He shrugs his shoulders. 'Well, how are you doing there on Alpha Centauri?'

– Yes, as usual.

– And who are you? What do you do?

– War pilot.

– It's at home, but here?

– Same.

– Bomber?

– The fighter.

I tried to figure out why they needed fighters and asked what they were doing (with humanity) here, and most importantly, what humanity was doing in response. Maybe I didn't know something, but either I couldn't formulate the question, or he didn't reply.

Report #98. February 1, 2020 (Male)

I saw aliens getting up from the bed after the fall. There were three of them, from about 80 cm to a meter tall (I can only guess their measurement based on the height of my bed – specifically, the height of the bed with the mattress is equal to the height of the alien to the shoulders). They had big ears, like the master Yoda from Star Wars. It was not possible to examine their faces in detail, but they had no helmets or headgear. The eyes are narrow and medium size. They stayed together in a group and said something, but I didn't understand their speech. They behaved in a friendly manner, with their unusual appearance. I didn't feel fear but rather interest. Each of them had weapons: one had a stone, the second had a stick, and the third had something like a small river trident like the ninja turtles. I even thought that their attributes were similar to the ninja turtles, but for some reason, there were three of them, and they didn't look like turtles (in particular, the head and lack of armor). But their skin was very like a turtle's, wrinkled, soft, and textured. On the hands were 3 fingers, with claws on each. I held their hands and examined them when I felt myself getting out of the phase. Also, each of them had its own skin tone: one was bluish, the second was purple, and the third was greenish.

Report #101. February 2, 2020 (Female)

I imagined an alien in the next room. I came in and saw a yellow, wrinkled humanoid sitting in an armchair. Its height is approximately 150-160 cm. Eyes are typical of an 'alien.' We went down the street. There was another man with us, who came from nowhere. The alien worked as a blacksmith cook, and they made food from iron. He was late for work and in a hurry.

Report #130. March 20, 2020 (Female)

I remembered about the aliens. I thought that it was already waiting for me in the hall, and I went there. At first, I saw him, but he hid in the shade.

– 'Show yourself in the light,' I told him, and then something jumped into the light, no larger than 15 centimeters, in a hat, in armor, which made him plump. I started looking at him.

– 'Hi,' he said in a sort of childish voice.

– 'Hi! Let me see you,' I informed him and began to examine his face. It looked like an Asian. I didn't have time to look at his suit.

Report #133. March 29, 2020 (Male)

I went out into the hall and began to wait for the aliens. Then I slowly walked down the corridor to the kitchen. And suddenly, an alien ran out and passed me. The size was very small, about 20 centimeters, like a cat, thin and small. I turned around, but he was gone. I went into the room and felt a rustle near the ceiling. I looked for a long time and noticed movement along the corner of the ceiling. It also looked like aliens.

Report #142. April 7, 2020 (Male)

I walked around the apartment. I didn't see any aliens. Then I went for a walk around the yard, and I saw other people and things, but didn't pay attention and went for the goal. I saw an alien in a neighboring yard and examined his behavior. There were little creepy sensations. I hadn't met them in the phase before. It was big. It came out, about 190 cm tall, very muscular, his body completely white without contours, except his face. His eyes and nose were black. The eyes are large ovals, the mouth is small, more like a human's. The feet are dark. He came around the corner, and when he saw me, he came to me.

Report #151. April 18, 2020 (Female)

Like a freeze-frame, it was as if I was there because I had to complete the task. I was immobile as I observed two humanoids of medium height, pale color, undetermined sex, without clothes, deep black eyes without shine, as if they knew your being completely. They were sitting by the kitchen window. I was at the door. For just a few seconds, we looked at each other, and I thought that it was my imagination and woke up.

If the above-mentioned results are accurate, then it is not only the case that such spontaneous PSs with AUEs can happen in general, but it is also possible for them to be confused with reality (Raduga, Zhunusova, and Shashkov, 2021). Combining this fact with the absence of any reliable evidence of actual AUEs, we could suggest that bedtime AUEs mostly happen because of the nature of PS. Of course, this holds true only if all witnesses were honest and did not make up their reports.

Detecting PS in AUEs

Because bedtime AUEs represent a considerable fraction of all AUEs, their exclusion from the overall picture may substantially enhance, clarify, and simplify the general study of the AUEs. This goal can be accomplished by creating a list of markers that potentially highlight the presence of PS in AUE reports, after which they could be referred to as another topic (PS). Though this goal requires an exclusive study, we can already suggest a few possible markers:

1. The “witness” is reclined, sitting, or lying down.
2. The “witness” wakes up, falls asleep, naps, meditates, or daydreams.
3. The “witness” is in a state of sleep paralysis or feels “vibrations.”
4. The “witness” levitates or penetrates solid objects.
5. The “witness” has an out-of-body experience.
6. The “witness” is involved in or observes paradoxical events that contradict reality (e.g., he or she sees people or objects that could not exist in reality).
7. The “witness” quickly transitions from one location to another, even if these locations are not directly connected.
8. The “witness” experiences an unstable vividness of perceptions or encounters “hyperreality.”

9. In the end, the ‘witness’ teleports directly to his or her initial location.
10. The “witness” forgets how the story ends.

Markers 1 or 2 are obligatory, while all others can either happen or not in PS. Stories that start while dreaming are automatically omitted for the obvious reason that it is related to PS. Night has no importance either, as people often take day naps.

It is important to keep in mind that the above-mentioned markers are theoretical only—they have not been tested in empirical studies, nor have they been proven in practice. Therefore, at present, they may be used only as a preliminary guide to direct studies investigating PS traces in AUE reports. These markers are proposed based on the author’s 20 years of PS practice and involvement in dozens of related studies.

What mechanisms underlie the manifestation of PS in AUEs? A person might occasionally think about an AUE in a specific moment when their consciousness is active, but the brain is prepared to dream. It is more likely to happen to people who are interested in supernatural phenomena and consume movies, books, documentaries, and other media focused on this topic. In the PS space, AUE thoughts could signal the emulation of this expectation. Because sensations feel very real, it is sometimes very easy to confuse them with physical reality.

Conclusions and Directions for Future Studies

When people find themselves unable to determine the difference between reality and PS, they may often become confused about their AUEs. These “witnesses” lack rational explanations because such events are not commonly portrayed in the media and culture. However, extracting PS from AUE stories may help us to better understand the nature of both phenomena.

Ideally, the suggested markers for extracting PS from AUEs will be tested in practice before being implemented, as they are preliminary guidelines at this point. It is highly probable that such study would become of great interest to researchers carrying out alien or UFO studies.

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Fantasy Imagery and UFO Testimonies

Raoul Robé

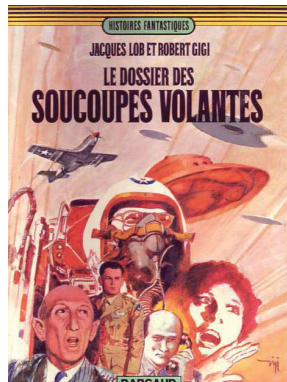
Abstract: This text aims to make researchers aware of the existence of a parallel between the witnesses' accounts of close encounters, sometimes described by the witness himself as a confrontation with an alien (*The ET event*¹) and the scenarios of Science Fiction authors and Imagination in the broadest sense. I will use pictures from various sources to support my arguments, sometimes with my own graphic interpretation. Through precise examples, sometimes even famous in ufological literature, such as close encounters of the third type during the great wave of autumn 1954 in Europe (Chabeuil 1954) or through personal investigations carried out by the author (Nancy 1969), you will cross over into "another dimension", reminiscent of the world-famous television series: *The Twilight Zone*.

Keywords: Imagination, Close encounters of the third kind, Cultural context, Valensole, Amarante.

Introduction

To understand my ufological approach I must tell a little about my personal experience. In the 1970s, as a teenager, I read adventure and science fiction comics and started a collection on the theme of flying saucers and aliens which today includes 1,370 titles. In 1972, a friend lent me the 1st album of Lob and Gigi *Le dossier des soucoupes volantes*, Dargaud (stories of UFO testimonies in pictures which had been published in the magazine *Pilote* in 1969)². This impressed me a lot and even pushed me to start a long research (40 years) in this field.

In 2011, I even had the immense pleasure as a passionate amateur of being able to buy the original comics art pages of this album illustrating the observation of Kenneth Arnold in 1947.



Since then, I have been studying the possible links between the pictures published in science fiction and fantasy literature and the cases of UFO observations like my predecessors Bertrand Méheust, Marc Hallet, Michel Meurger, and Jean-Bruno Renard.

What I find interesting is therefore to demonstrate the anteriority of fiction in various forms (pictures, comics, illustrated children's books, TV series, films, advertisements) over the UFO testimonies.

¹ Arnaud Esquerre, *Théorie des événements extraterrestres. Essai sur le récit fantastique*, Fayard, 2016.

² Jacques Lob and Robert Gigi, *Le Dossier des soucoupes volantes*, *Pilote*, 1969, and Dargaud, 1972.

Illustrations Serving the Popular Imagination

If the literature of fiction like *Le Merveilleux-scientifique*³ before Science Fiction undoubtedly plays a role in the imagination of the witnesses, I think that pictures influence much more significantly and durably their vision of the world. And above all, since the beginning of the XX century, they have been widely used with the explosion of the paper press then the audio-visual media. So inevitably a drawing published in a newspaper will affect a very large number of people whatever their age. Let's remember that from the beginning, advertising drawings, cartoons, various illustrations were published in newspapers before the use of photographs.

But let's be concrete and examine these few examples of coincidences between fiction and Ufology.

In the saga of *Mandrake, the Magician* and his fiancée Narda, there are often encounters with aliens of various kinds. In the episode *Les conquérants de l'espace* published in France in 1958⁴, tiny aliens landed on Earth, met Narda and reduced her size thanks to a ray. Mandrake managed to find them and saved his fiancée. He bent down near a shrub to catch one in his hand...

In April 1945, after picking mushrooms in the woods of Renève (Côtes-D'Or) a priest saw a tiny homunculus under a shrub. It was frightened and escaped before the witness managed to catch it. The case was known only in 1975 by ufologists and the local press. The Parisian ufologists⁵ did not hesitate to qualify it as an ufonaut whereas no UFO had been seen.



Graphic interpretation by the author.

The witness may have been influenced by this comic book or by another source, such as a film. Indeed, in 1936, Tod Browning directed the film *The Devil's Dolls*⁶ where a mad scientist reduces humans to the size of small dolls. He grabbed them in his hand.

Or had the priest read the novel *The Little Men of the Pine Forest* written in 1929 by Béliard?⁷ In this novel, a mad scientist succeeded in creating a mini humanity and made it evolve in his forest by observing it. His assistant made the mistake of entering the forest and seized a tiny wild woman who thought he was a god.

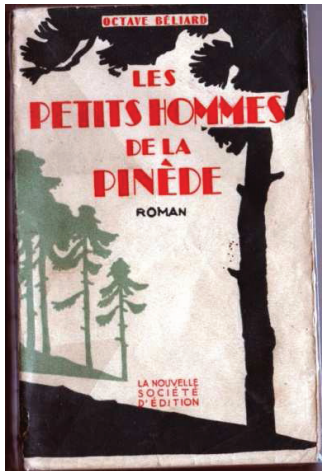
³ Exhibition and lectures : *Le Merveilleux-scientifique, une Science-fiction à la française*, BNF April 23 to August 25, 2019.

⁴ *Mandrake*, No. 306, *Les Conquérants de l'espace*, Éditions des Remparts, 1958.

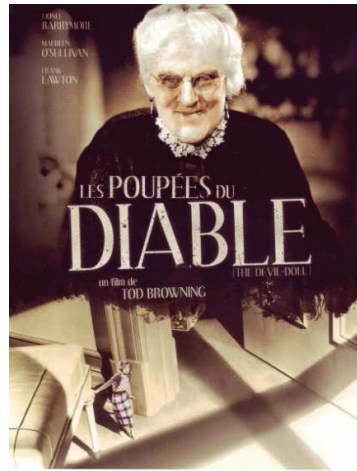
⁵ *Phénomènes Spatiaux*, No. 45, GEPA, 1975.

⁶ Tod Browning's film *Les poupées du diable*, 1936.

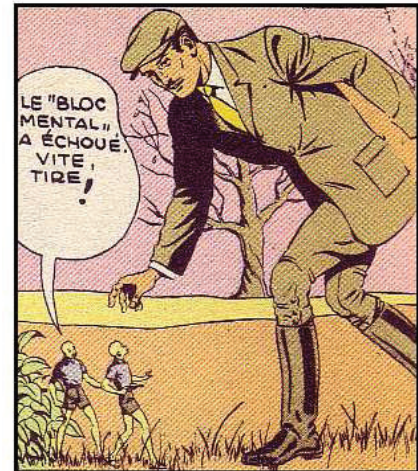
⁷ Béliard, *Les petits hommes de la pinède*, Nouvelle société d'édition, 1929.



In literature in 1929



At the cinema in 1936



In comics in 1958

As we can see, the principle of reducing the size of a human beings is an artifice which has been used by authors for a long time in the fantasy literature.

During the “great wave of autumn 1954”, the case in Chabeuil (Drôme) became famous⁸. In September, a woman was walking in the countryside with her dog, when a strange-helmeted figure approached her through a field. She realized with fear that the little scuba diver was not ordinary. She screamed and the figure disappeared. Then a UFO took off.



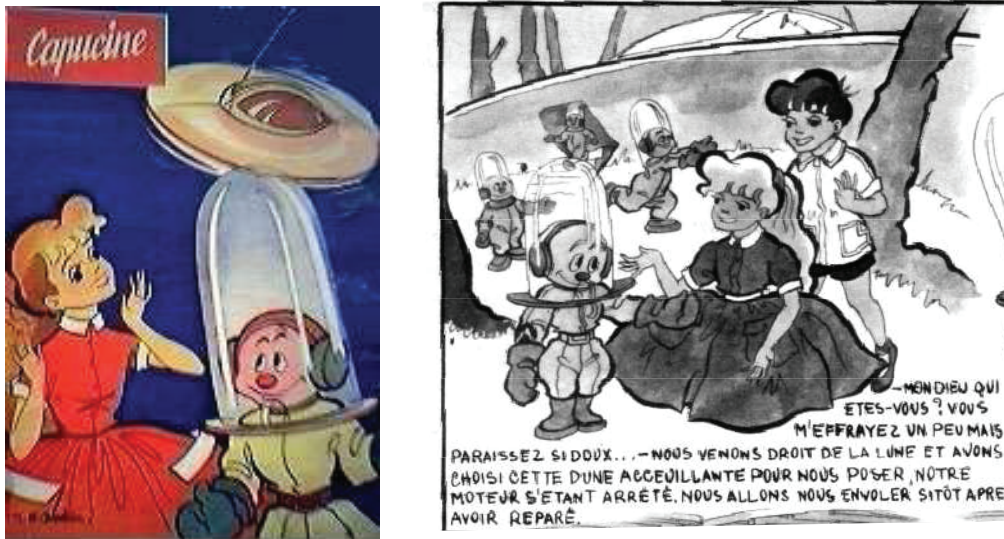
Illustration from the comic strip *Ceux venus d'ailleurs*.⁹

At the same period in the press dedicated to young female readers, the character Capucine¹⁰ met helmeted Selenites (“moon people”) getting off their saucer in the countryside and she admitted that she was afraid. An abduction of humans by aliens in this comic book appeared on April 1, 1954.

⁸ Michel Figuet, *Enquête*, SERPAN archives.

⁹ Jacques Lob and Robert Gigi, *Ceux venus d'ailleurs*, Dargaud, 1973, p. 11.

¹⁰ *Capucine*, Édition des Remparts. April 1, 1954.



Illustrations from the comic strip *Capucine*.

Was the September witness in Chabeuil influenced by reading this illustrated book published in April or should we look for another lead?

A few years ago, my friend Michel Figuet, UFO investigator and president of SERPAN, asked me to check in my comic books if a similar story existed in fiction. Indeed, he had investigated a sighting that took place in the spring of 1965, one afternoon at around 4 pm. A 12-years-old schoolboy who lived in Sorgues¹¹ in the Vaucluse region, declared that he had seen a device on the ground in a wood with the presence of a small humanoid. The “alien” had pointed a futuristic gun towards the witness which paralyzed him. Then the strange character jumped into his device before taking off.

I discovered a series of similarities in the description of the humanoid with a character from the children’s press that had become very famous. The following table shows a comparison of features:

The ET humanoid	The comic book character
A small being of 40 to 50 cm	small size
A suit covering head to toe	hair covering the head
The skull was shaped like an egg	oval skull
Large eyes	Large eyes
A small mouth	A small mouth
Didn’t notice an ear	non-human ear on the top of the skull
Walk like someone with flat feet	monkey’s flat feet
He raised his knees so high that he seemed to jump	stretched legs to jump
It made very high jumps	very high jumps
He shouted: “hic...hic...”	He shouted: “houba...houba...”
He raised his arms to the sky	often raised his arms to the sky
Very agile for its size	Very agile like a monkey

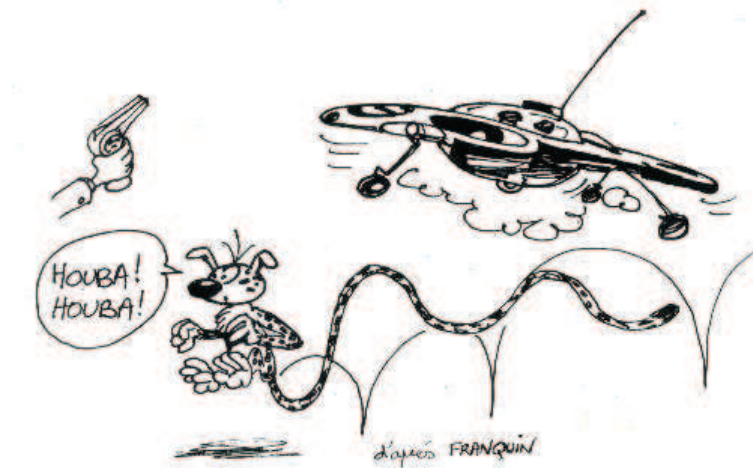
¹¹ Julien Henry and Michel Figuet, *Ovni en Provence*, Édition Haute-Provence, 1993, pp. 231-233.

There are many similarities. This character is none other than the Marsupilami invented by the Belgian cartoonist André Franquin for the magazine *SPIROU* in 1952.

If we dig deeper into the testimony, the young witness describes the device on the ground: “a strange device, it didn’t look like made of solid metal, like *SPIROR* (?) that could move”. Now, on the one hand the Marsupilami is *SPIROU*’s pet and on the other hand, in the album entitled *Le dictateur et le champignon*¹² (1956, 1962 et 1966) an eccentric inventor invented a spray that softened metal.

We read in the testimony: “The little being took out a kind of gun that looked like a small hair dryer and directed it towards the young witness” and paralyzed him.

In the album *Z comme Zorglub*¹³ (1961) an evil genius created flying machines and armed his guards with paralyzers in the shape of hair dryers! In this album, “hundreds of unidentified objects” were mentioned.



Graphic interpretation by the author after Franquin .

I believe that our young witness has read these widely distributed comic books and that he had been inspired by them to invent his ufological story.

These cases, like many others, show that it is useful to systematically verify the cultural context of a UFO case.

On July 1, 1965 in Valensole (Alpes-de-Haute-Provence)¹⁴ a farmer was working in his lavender field when he discovered an unknown machine and two small pilots. One of the two humanoids pointed a tube which paralyzed him. It should be noted that the little men were bald, spoke an unknown language, and were armed with a stun gun. They examined the body of the paralyzed witness and seemed to be benevolent.

Searching through my comic book references, I discovered a story called *Passager de soucoupe volante* in a series called *A travers le monde* published in 1955 (reissued in 1960, OKAY)¹⁵.

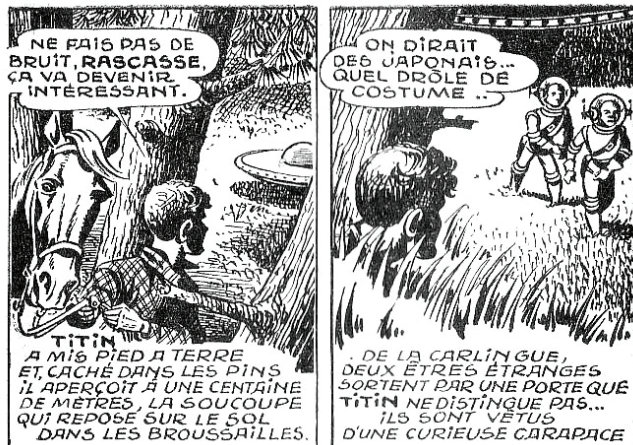
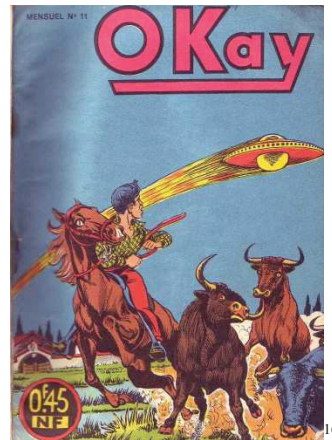
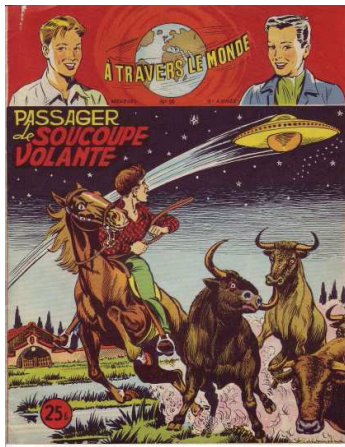
¹² André Franquin, *Les aventures de Spirou et Fantasio, Le dictateur et le champignon*, Dupuis, 1956.

¹³ André Franquin, *Les aventures de Spirou et Fantasio, Z comme Zorglub*, Dupuis, 1961.

¹⁴ *Phénomènes Spatiaux*, No. 5, GEPA, September 1965.

¹⁵ *A travers le monde*, No. 96, “Passager de soucoupe volante,” SEG, 1955.

The eye-catching cover shows a young rider and a herd of bulls running away from a flying saucer. The introduction is about a flying saucer in Provence!



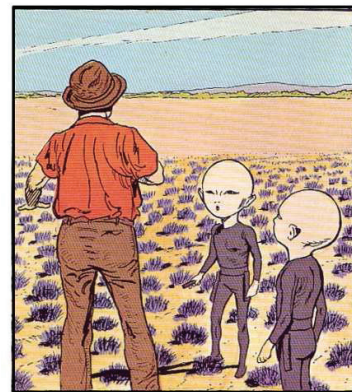
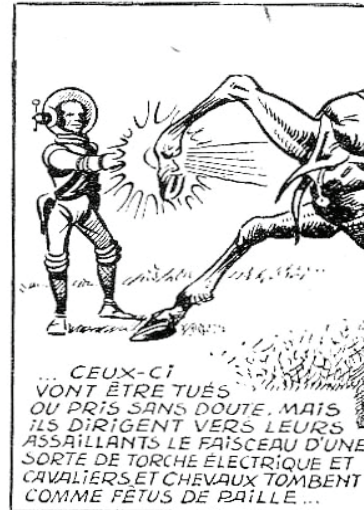
Illustrations from the comic strip *A travers le Monde*.

In the comic book, the hero discovered the landing of a flying saucer and the two little bald pilots.

The interpretation of the Encounter of the Third Kind by Lob and Gigi in Dargaud in 1975¹⁷ shows the bald pilot paralyzing the witness with a ray gun. In the illustrated version, the bald pilot paralyzed a too nosy rider with a ray gun.

¹⁶ OKAY, No. 12, SEG, 1960.

¹⁷ Jacques Lob and Robert Gigi, *Ovni dimension autre*, Dargaud, 1975, pp. 10-12.



Illustrations taken from the mentioned comics.

The witness is closely examined by both pilots in both stories.

The descriptive elements of this Close Encounter of the Third Kind are exactly the same as in the storyline of the earlier adventure comic book.

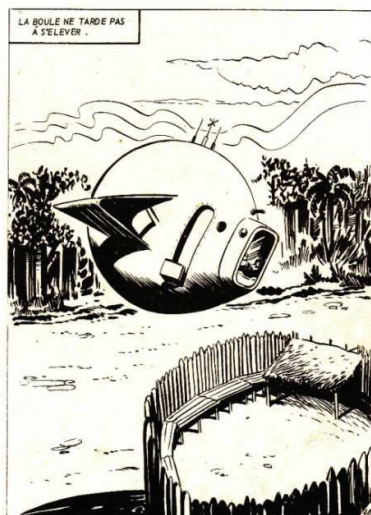
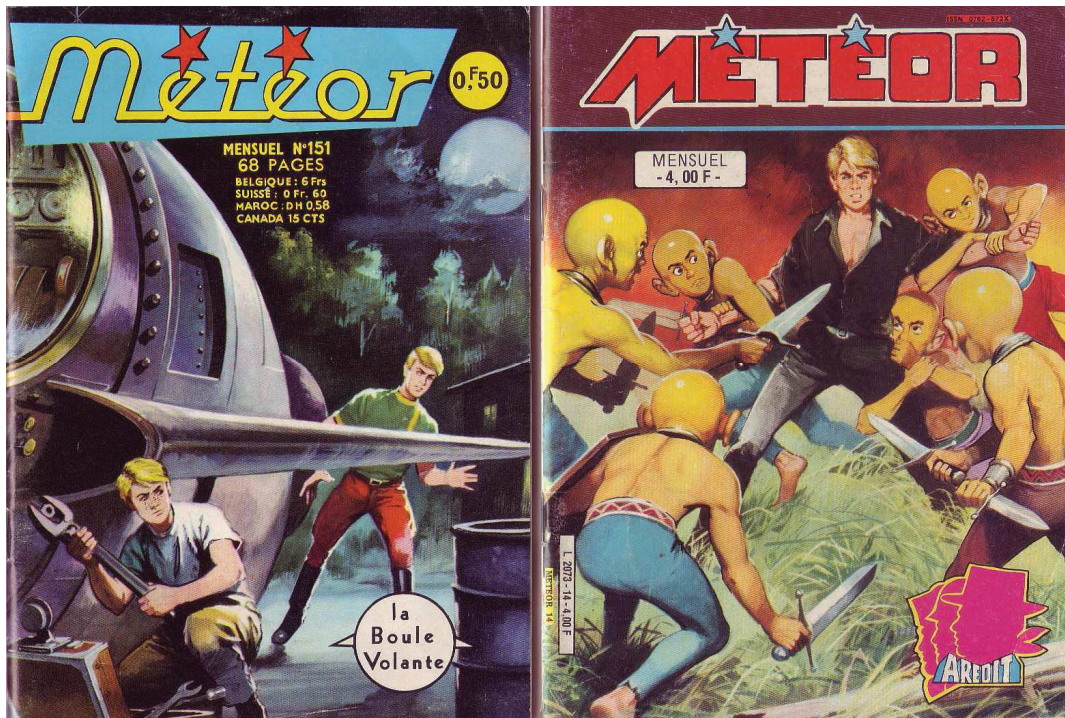
For the mark found in the field, according to the counter-investigation of two researchers it would be due to lightning¹⁸.

In February 1967, the comic strip *Météor* published a story over several months entitled *La boule volante*¹⁹ where a group of teenagers travelled in a sphere built by their friend, a scientist. They even met a population of small and bald aliens on an island (*Au pays des Iskirs*, May 1967)²⁰.

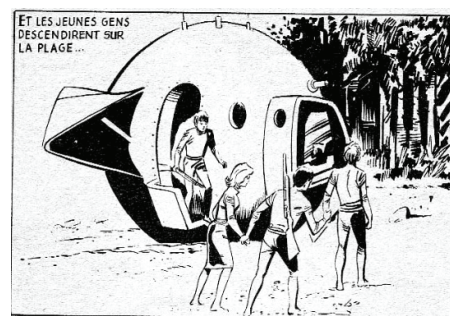
¹⁸ P. Vachon and P. Seray, *Marliens et les cas similaires*, SO, No. 5, May 2014.

¹⁹ *Météor*, No. 151, "La boule volante," AREDIT, 1967.

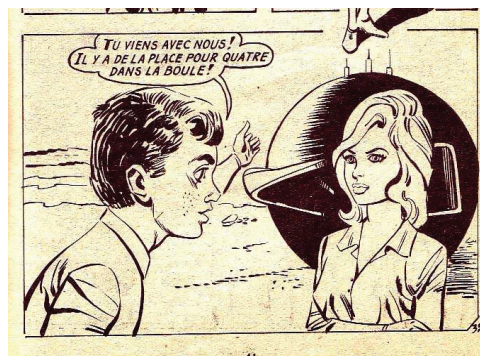
²⁰ *Météor*, No. 154, "Au pays des Iskirs," AREDIT, May 1967.



The ball flies over the camp.

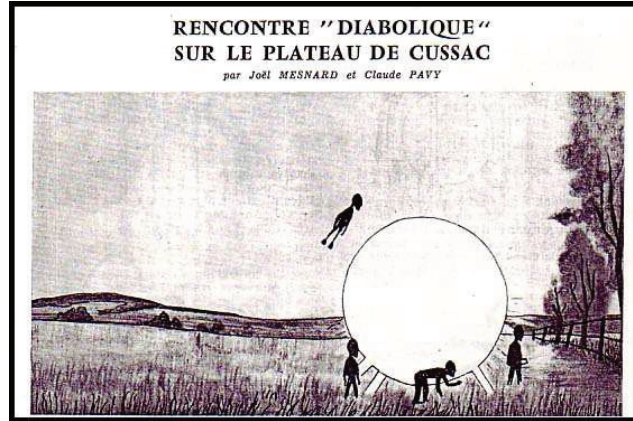


The four pilots land.



A boy and a teenager in front of the sphere on the ground...
(excerpts from the cited comic strip).

On August 29, 1967, at about 10:30 a.m., two children who were tending the cows not far from the village of Cussac (Cantal) noticed in another meadow and behind a curtain of trees the presence of a large sphere of metallic appearance reflecting the rays of the sun. They saw four small black figures seeming to be busy around it. The sphere took off and one of the characters, who had remained on the ground, flew back into the machine, which eventually flew away into the distance²¹.



Interpretation in the ufological magazine
Phénomènes Spatiaux, No. 16, June 1968.

Did the two young witnesses read this comic book and reinvent their own story according to it?

The Emergence of a New Popular Medium: TV

From the 1960s onwards, another medium has widely disseminated images of the Imagination among the population: television.

The Close Encounter of the Third Kind of November 15, 1969 in Nancy²² described the observation of a small flying saucer with a transparent dome flying over the city skyline. The witness saw the scene from her window. The woman saw the aircraft approaching slowly and then noticed the presence of two small pilot heads who were smiling at her. She felt a strong heat and a powerful smell. The saucer moved away to join two others on the night horizon. Then the witness noticed that she had a bump on the forehead and that her hands were swollen as if irradiated.

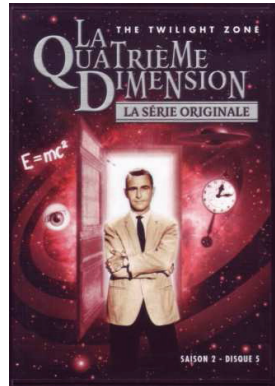


Graphic interpretation by the author.

²¹ *Phénomènes Spatiaux*, No. 16, GEPA, June 1968, p. 27.

²² *Réalité ou Fiction*, No. 2, "Les enquêtes du GPUN en bande dessinée," Nancy, 1976.

After researching for a long time, I had the opportunity to watch the TV series *The Twilight Zone* which was broadcast in France for the first time in February 1965. One episode caught my attention. It was No. 15 *The Invaders*²³:



Let's compare the two scenarios of these “extraordinary stories”.

Phase 1:

The ufological testimony: “A woman alone in her apartment in the city saw the arrival of a small metallic flying saucer with a dome approaching her above the rooftops”.



Graphic interpretation by the author of the 1969 testimony.

The SF scenario: “A woman alone on her farm in the country realized that a small domed metal flying saucer had landed on the rooftop”.

²³ TV series, *The Twilight Zone*, season 2, No. 15, “The Invaders,” CAYUGA production, CBS.



Photograph from the TV series.

Phase 2:

The ufological testimony: “The woman noticed that two very small pilots were visible, she felt tingling on the skin due to the radiation of the headlights of the machine”.



Graphic interpretation by the author.

The SF scenario: “The anxious woman noticed the presence of two small astronauts who had landed on the roof and one of them shot at her with a ray”.



Photographs from the TV series.

Phase 3:

The ufological testimony: “The witness took refuge in her home, in her kitchen, and noticed that she had stigmata on the skin of her hands and on her forehead”.



Graphic interpretation by the author.

The SF scenario: “The woman went back to her kitchen and saw scared the stigmata on her skin of hands and neck”.



Photographs from the TV series.

Unlike the fictional scenario, the ufological adventure is perceived positively by the witness. Mrs X... recognized having found the “scene” marvellous.

In the scenario of *Twilight Zone*, the assaulted woman defended herself by smashing the spaceship after burning its mini attackers. The viewers discovered the emblem of the destroyed spaceship: the “American coat of arms of the US Air Force”. So it was not about ET miniatures but about earth explorers who had discovered a planet of giants. This surprising ending is one of the characteristics of this very original series at the time.

This series was broadcast several times on French television and in Luxembourg. I think that the witness from Nancy could have seen this precise episode. The bump on her forehead and the hallucination that followed could have triggered this fictional memory that was so striking at the time. Let us highlight the strong elements: a woman alone in her kitchen, appearance on the roof, the exceptionally small dimension of the classic saucer made of “sheet metal and bolts”, very small

pilots, and very localized stigmata on the witness, all this in a media context favourable to “space reverie” (in the middle of the American space conquest).

In the same region of Nancy (Lorraine) another case with traces was the subject of an investigation by GEPAN in 1982. It is the file named “l’Amarante”²⁴.

On October 21, 1982, a witness working in his garden around noon saw a small object descending from the sky. The round object hovered above the garden. The witness came very close and noticed that it was a small metallic flying saucer in the colour of blue-green lagoon. The craft took off and moved away. Traces were found on the vegetation by the gendarmerie and were studied by GEPAN scientists.

However, on September 8, 1982, the channel FR3 broadcast a fictional TV movie²⁵ called “La soucoupe de solitude” in which a small bluish flying saucer flew over a young woman in her yard. It came down over her head. The witness fainted. Scientists recovered the alien object to study it. Extracts:



A small blue saucer approaches....



It flies over a courtyard...



The UFO approaches the ground...



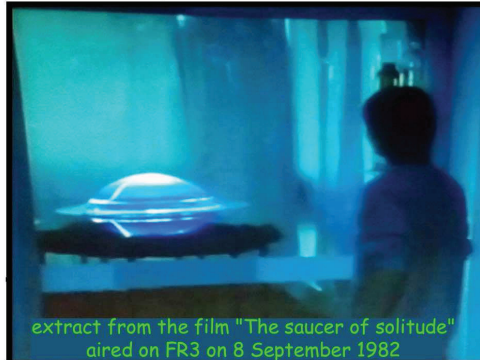
The witness examines it closely.....

Was the witness influenced by this fiction? Or should we look elsewhere for the explanation of this disturbing coincidence between the Imaginary and reality.

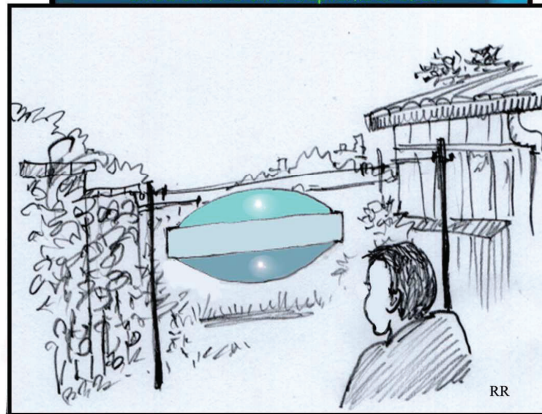
²⁴ Note technique du GEPAN No. 1, enquête 86/06, CNES, Toulouse.

²⁵ Philippe Monnier, *La soucoupe de solitude*, FR3, 1982.

Similarity, coincidence or influence?



extract from the film "The saucer of solitude"
aired on FR3 on 8 September 1982



Case of amaranth

on 21 October 1982

Conclusions

What can we conclude from this? With these few examples, we have checked how these cases of UFO and “alien” observations had appeared previously in the imagination of the scriptwriters of illustrated books or films.

Facing this, three tracks are open to us:

- (1) Simple, unrelated coincidences due to chance and the exponential growth in the number of images flooding society in the twentieth century. Improbable, in my view.
- (2) Direct influence of these fictional stories on the “eyewitnesses” who used them in their UFO descriptions, after having read or watched them. In this hypothesis, they would build their stories from those elements of fiction. I see it as the most logical and rational explanation²⁶.
- (3) The product of the “intelligence” behind an alleged “UFO phenomenon” that would manipulate the psyche or the memories of certain chosen witnesses to this purpose, in the imaginative opinion of writers like Jacques Vallée, Jean Sider, or Éric Zurcher. An over-creative scenario, I reckon.

I invite the educated reader to cut this Gordian knot.

²⁶ Jean-Michel Abrassart, “L’influence de la culture sur les observations d’OVNI,” lecture, Workshop CAIPAN, GEIPAN, Paris, October 7, 2014,
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Abilities and Limitations of Eyewitnesses Assessed on Atmospheric Entries of Meteoroids and Artificial Satellites

Jean-Pierre Rospars

Abstract: Observers' reactions to known phenomena with multiple witnesses provide a good test of their ability to accurately describe unfamiliar, brief, and unexpected events. We analyzed statistically about 300 accounts of 7 atmospheric entries of meteoroids and satellites reported to the French police during 1980-2009 and quantitatively estimated the reliability of witnesses for a dozen spatial, temporal, and structural characteristics. On a scale of 0 to 1, the reliability is practically zero for metric data and direction of motion, which cannot be determined in general from sensory data, and varies from 0.5 to almost 1 for directly perceptible characteristics. Witness reliability is not a simple concept as it is highly dependent on the characteristics being studied, the expected accuracy, and methodological constraints. It is also not a static notion because it can be improved by helping the witnesses provide objective information (e.g. angular data instead of metric data).

Keywords: Measurement of witness reliability, Psychology of perception, Intersubjectivity, Misinterpretation, Statistical methods, Lognormal distribution, Time estimation, Distance estimation, Color vision, UAP, Police reports

Introduction

To what extent are human observers able to accurately describe an unfamiliar phenomenon to which they are unexpectedly and relatively briefly exposed? To answer this question, one must be able to compare what the observers perceived, or more precisely what they say they perceived, with the known characteristics of the phenomenon. One possible approach, which has the advantage of being based on the vast resources of experimental psychology, is to present the subject with artificial stimuli controlled by the experimenter in the laboratory (e.g.¹). Another approach, less precise but closer to natural conditions, consists in analyzing how observers describe known natural or man-made phenomena that they happen to witness. We will follow here this second approach, based on atmospheric entries of meteoroids or artificial satellites (payloads and rockets), already illustrated by a few previous studies.^{2,3,4,5} These bodies burning in the atmosphere are visible from the ground as more or less spectacular moving lights depending on their speed and size. Observers of atmospheric entries, whether they identify them as such or not, are in conditions similar to those of other rare and less easily identifiable phenomena known as UFOs or UAPs, and so provide reference information for the assessment of UAP reports.

The available reports of atmospheric entries provide numerous pieces of information on the observed phenomena and their conditions of observation. First, we will investigate how observers report or fail to report various characteristics of these events, whether spatiotemporal (like time,

¹ Jimenez, "Les phénomènes aérospatiaux non-identifiés et la psychologie de la perception."

² Hartmann, "Process of perception, conception, and reporting."

³ Drake, "On the abilities and limitations of witnesses of UFO's and similar phenomena."

⁴ Jimenez, *Témoignage d'ovni et psychologie de la perception*. This study is based on police reports of 18 atmospheric entries from the period 1974-1990, of which two (#1017 and #1159, see below) are also included in our sample.

⁵ Jimenez, *La psychologie de la perception*.

duration, height, distance and direction) or intrinsic (like structure and colors). Second, we will evaluate how perceived characteristics differ from the actual characteristics of the phenomena as known from the scientific literature or derived from the reports themselves. Then, defining the reliability for a given characteristics as the ratio of the number of correct descriptions to the total number of descriptions, we will propose practical methods for quantitatively measuring the reliability of eyewitnesses for various characteristics. We will also provide some brief comparisons with previous studies.

Selection of Reports

Before studying their content, let's give an overview of the observers' accounts. They were extracted from a set of reports gathered by GEIPAN, the UAP study group of the French National Center for Space Studies (CNES). In the period 1980-2009 covered by the present study, more than 2200 reports were received by GEIPAN on about 1700 UAP events involving more than 5000 witnesses. The events of interest for the present study are atmospheric entries with multiple witnesses. We found 215 atmospheric entries, but only 16 with 10 observers or more. However, three-fourths of the corresponding reports were generated by only one event, a launcher re-entry that occurred on November 5, 1990. This massive event would require a specific analysis, so it was not included in this study. We drew at random 7 of the 15 other events for detailed analysis.

Table 1 summarizes the main features of the 7 selected atmospheric entries. Six of them were interpreted as meteoroids and one as an artificial satellite. They generated 116 reports based on the observations of more than 350 witnesses (Nt). The majority (83%) of recorded testimonies (Nr) came from the *Gendarmerie Nationale*, one of the two national police forces in France in charge of rural and suburban areas. The other testimonies came from the Civil Aviation agency (7%), the urban police (1%), and directly from observers (9%). The difference between recorded (Nr) and detailed (Nd) testimonies results from our exclusion of the observers who did not provide their own description but merely confirmed another observer's statements; this means that only explicit statements were considered. We also removed from Nd a report that was not likely to describe an atmospheric entry (see next section), thus obtaining the testimonies actually used (Nu = 283).

Table 1. Main features of atmospheric entries studied

Event	Date	Time	Nt	Nr	Nd	Nu	Ndp	Nco	Object
#1017	11.11.1980	18:37	144	125	117	117	25	70	meteoroid
#1159	06.06.1983	22:57	52	45	35	35	11	22	meteoroid
#1461	11.28.1991	22:28	30	26	26	26	7	19	meteoroid
#1667	08.01.1996	21:24	75	67	65	64	11	49	meteoroid
#1769	02.01.1999	07:15	13	13	11	11	3	10	meteoroid
#2290	09.25.2008	22:55	23	16	16	16	12	16	satellite
#2378	01.17.2009	18:47	19	14	14	14	9	14	meteoroid
Total			356	306	284	283		200	

Event, event identifier. *Date*, date of the event. *Time*, approximate legal time of the event (see section Time for details). *Nt*, number of known observers. *Nr*, number of observers met by investigators. *Nd*, number of detailed testimonies (observers who only confirmed another witness were excluded). *Nu*, number of usable testimonies (one sighting unrelated to event #1667 was excluded). *Ndp*, number of *départements* from which the event was reported. *Nco*, number of communes with observers. *Object*, all events resulted from meteoroids except #2290 (Russian launcher).

Table 1 shows that the phenomena were observed during night-time hours in geographical areas whose size can be estimated by the number of *départements* where witnesses were located (*départements* are administrative units of approximately 6000 square km, corresponding to a circular area ca. 90 km in diameter). These areas are well-correlated with the number of observers and the number of communes where the observers were located (communes are the smallest administrative units, one tenth the diameter of a *département*). Depending on the event, the area of visibility included from 3 to 25 *départements* (roughly 3% to 27% of metropolitan France), which indicates that the visibility of the phenomena was not at all equivalent, with many factors like brightness, duration, cloud cover, time of the day, etc. contributing to the visibility. Other aspects of the events are described in the following sections devoted to their various characteristics. Unless otherwise stated, all statistics (numbers and percentages rounded to the nearest integer) are given with respect to the 283 useful testimonies.

Anomalous Motion and Confusion

Although witnesses usually reported a light or set of lights moving at constant speed across the sky, in eight accounts the light was perceived as stationary during all or part of the observation. This can occur if the object is following a path directed exactly toward the witness, but this should be rare and reports suggest other explanations, as follows.

Four testimonies that do not show inconsistency in duration are likely the result of misperceptions. The witness' own movement in a car in the first case, the brevity of an "apparently stationary" light seen for only 2 seconds in the second case, and the alleged "stabilization" of a moving light before it goes out in the third one, are consistent with this hypothesis. The fourth example will be discussed in the second-to-last section.

Four other testimonies of stationary phenomena also present inconsistencies in time and/or duration. In event #1667, a witness saw the meteoroid fall and then, along with his friend, a white light seemingly motionless on the ground for 20 min – a tractor at work in a field according to the police investigation. The confusion of two independent phenomena is reflected here by discrepancies in motion and duration. About an hour after the most probable time of event #1017, two witnesses reported an intermittent blue light in the sky and a few seconds later a red sphere motionless for 2 min. The blue light is consistent with other descriptions of meteoroid #1017, which raises the possibility that the red sphere was something else, the moon for example; the witnesses deny this interpretation but they do not indicate the direction of observation which prevents a verification. In the last testimony, 80 min after the fall of meteoroid #1667, three lights forming a triangle were seen stationary for 30 min. In this report at least three elements (immobility, time, and duration) are inconsistent with the meteoroid assumption. For this reason this account was removed from our final sample (hence the difference between Nd and Nu) which avoids mixing witness errors (the signal we want to study) with erroneous selection by us of irrelevant phenomena (noise).

Deviation from the Actual Date and Time

All observers provide the date of the event. In 5 cases (2%) this date is wrong by one day (the next day is given), although the day of the week is correct in one of these reports. Time is the second characteristic most frequently reported by witnesses (in 95% of usable testimonies). However, the variable of interest for the present study is not time in itself but the difference

between the time given by the observer and the actual time of the event. For some events the actual time is known approximately from *a priori* reliable observers (see below) but this is not always the case, so we preferred to take the mean of all the times reported for a given event as a reference.

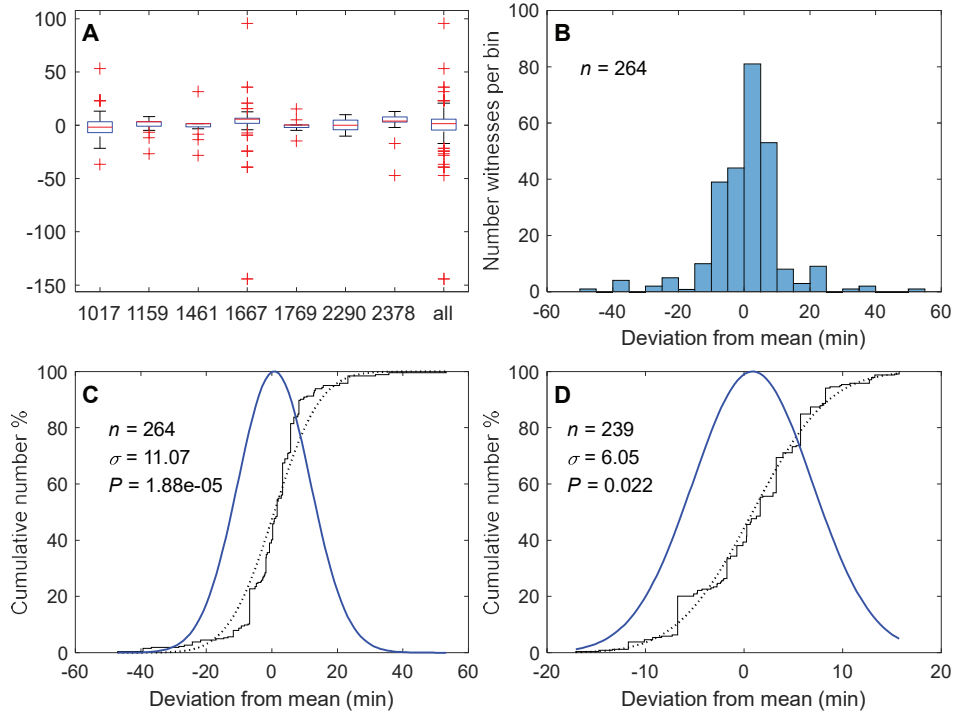


Figure 1. Deviation of observation times from the mean time of each event. **A.** Boxplots of the 7 events (from #1017 to #2378). The rightmost boxplot is for all events together ($n = 264$). The boxes extend from the lower quartile (25% of the data are below this point) to the upper quartile (75% of the data are below this point) with the medians (red line with half values smaller or greater) in between. The whiskers extend to the most extreme data values within $1.5 \times \text{IQR}$ (interquartile range from lower to upper quartiles). Outliers (red crosses) are deviations beyond the end of the upper whiskers. **B.** Histogram of deviations with bin width 5 min. Three outliers with deviations -144, -144 and 96 min. not shown. **C.** Empirical cumulative distribution function (CDF) of deviations less than ± 60 min. (solid black staircase); all deviations are shown along the x-axis as stepwise jumps of height $1/n$, giving a complete and undistorted view of the original data. Empirical CDF is fitted to a normal distribution (smooth dotted curve) of mean μ (close to 0) and standard deviation σ ; fit is rejected at level 1% (P-value $< 10^{-4}$). Fitted normal probability density function (PDF) shown as smooth blue curve. **D.** Empirical CDF of deviations less than 20 min. from the mean (staircase) fitted to a normal distribution (dotted CDF and solid blue PDF curves); fit is not rejected at level 1% (P-value = 0.022).

Different views of the deviations from the mean time are displayed in Figure 1. The deviations are shown as so-called boxplots in Figure 1A, first separately for each event from left to right, then for all events together. Most deviations are relatively small and similar in all events, as shown by the heights of the central rectangles that contain half of the deviations in each event, although relatively large deviations are found (from 3 to 9 per event drawn as red crosses). Figure 1B shows all deviations together as a histogram whose bell shape is consistent with the idea that time deviations follow a Gaussian (also called normal) curve that is a classical description of measurement errors. The Gaussian distribution that best fits the data is shown in two different ways in Figure 1C, as a bell-shaped curve (so-called PDF, in blue), which can be compared to the histogram 1B, and a sigmoid-shaped curve (CDF, dotted curve) which has the advantage of being directly comparable to the empirical data (see solid black staircase curve). However, this best fit

solution with standard deviation 11 min. is not satisfactory because the difference between the theoretical (dotted) and the empirical (solid) CDFs is too large to result from random fluctuations (see statistical test in legend of Figure 1C). If only the time deviations smaller than 20 min. are taken into account (they include 90% of the values), then the bell curve with standard deviation 6 minutes becomes an acceptable description (see Figure 1D). This result suggests that beside the majority of observers who give time with an error that does not exceed 20 min., there is a minority of people (10%) whose less precise time estimates follow another Gaussian distribution with a much larger standard deviation.

In any case, considering the empirical distribution only, the percentages of witnesses who give the time with a difference of at most (plus or minus) 10, 15 or 30 min are 18, 11 and 4% respectively. We can retain ± 30 min as the most relevant since it corresponds to a range of one hour. Let's add a word of caution: it must be realized that we are not actually studying the time estimate of the observers but the time recorded by the investigators and interpreted by the author. Mistakes in recording and interpretation compound with errors made by inaccurate observers.⁶

Duration

The same method can be applied to the duration of the event, which is given by 71% of witnesses, often as ranges like "10-15 seconds" (we took the mean of the extremes) and sometimes as "a few seconds" (we interpreted as 3 s). Then it appears that the launcher re-entry (#2290), with median duration 35 s, was visible for a much longer time than the meteoroids (all other events), since their median duration is 8 s (range from 3 to 20 s). This is in good agreement with durations found in the literature.⁷ Typically, meteors are seen during "a few seconds"⁸ or "a fraction of a second to perhaps as long as 10 seconds,"⁹ but never more than 4 min 40 s,¹⁰ while satellite re-entries are seen "from maybe 20 seconds to a minute, but these times could be also longer or shorter in duration,"¹¹ without exceeding 3 min.¹² Thus, the approximately four times longer duration of satellites with respect to meteoroids is sufficient to be perceived by witnesses taken together.

To go further, durations are shown in Figure 2 with the same graphic methods as in Figure 1. Not only the median but also the interquartile range (103 s) is much greater for launcher #2290 than for meteoroids (17 s, range 1-26 s; Figure 2A). The most conspicuous difference with time deviations is apparent in Figure 2B as the histogram is not symmetric, with very short durations being more frequent than longer ones, which means that durations cannot be described by a Gaussian (normal) distribution but requires a skewed distribution. This is shown more precisely in Figure 2C which distinguishes the meteoroids (all six together) and the launcher; we found that the best fit PDF curves computed from the empirical staircases are lognormal distributions.

⁶ For example, in event #1667, the time (19:00) given by two witnesses is ambiguous as it can apply either to the beginning of the dinner or to the meteor sighting. I used the dinner time because in the absence of other independent witnesses, as in most UAP reports, this ambiguity would have been difficult to resolve.

⁷ For Hendry (*The UFO Handbook*), duration of meteors "ranges anywhere from one second to as long as twenty seconds" while satellite re-entries "are usually observed for longer than ten seconds" (from 113 reports).

⁸ Jeanne, *Méthode d'analyse statistique appliquée au réseau d'observation européen des météores FRIPON*.

⁹ Wertheimer, "Perceptual problems."

¹⁰ Alessandri, *Durée des rentrées atmosphériques et des météores*.

¹¹ Wertheimer, *ibid.*

¹² Alessandri, *ibid.*

A variable follows a lognormal distribution if its logarithm follows a normal distribution. This means that while times are measured on an ordinary arithmetic scale (graduated 0, 1, 2, etc. with successive additions) and their central value is given by their arithmetic mean, durations are more adequately measured on a geometric scale (graduated 1, 10, 100, etc. with successive multiplications) and their central value is given by their geometric mean (n^{th} root of their product) and median which is $\mu^* = 8$ s for meteoroids and 42 s for launcher #2290. As in Figure 1C, where removing the most extreme values improves the fit to a Gaussian distribution, removing the durations greater than 20 s in the meteoroid subset improves the fit to a lognormal distribution with $\mu^* = 5$ s (Figure 2D), suggesting here also that the longest durations obey a law with greater standard deviation.

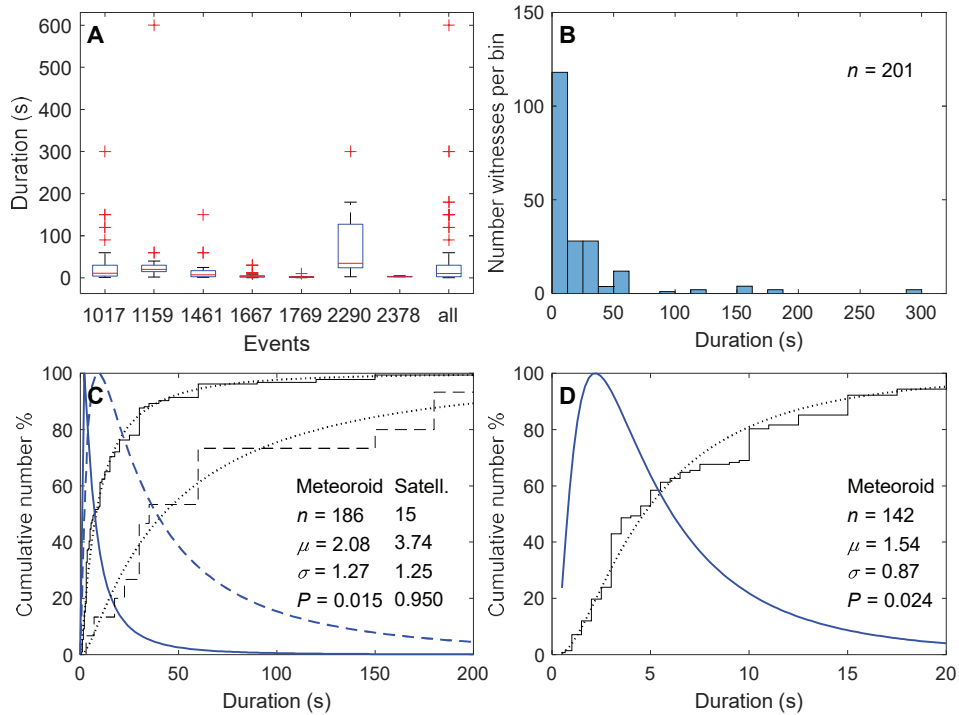


Figure 2. Reported duration of atmospheric entries. **A.** Boxplots of durations for each event and for all events together. Note the wider dispersal of durations for event #2290 (Russian launcher). **B.** Histogram of all durations less than 400 s (regular). **C.** Distribution of regular durations of meteoroids (solid staircase) and launcher #2290 (dashed staircase). **D.** Detailed view of durations less than 20 s for meteoroids (they include 72% of regular durations). Theoretical CDFs in C and D (same line style and color as in Figure 1) are lognormal. Like its Gaussian counterpart, the lognormal distribution is characterized by two parameters, its mean μ and standard deviation σ (see legends inside panels), $\mu^* = \exp(\mu)$ being the median and geometric mean of the lognormal distribution fitted to data. In C, $\mu^* = 8$ s (meteoroids) and 42 s (launcher #2290). In D, $\mu^* = 5$ s (meteoroids).

It follows from the properties of the lognormal distribution and the near equality of standard deviations of meteoroids and satellites (Fig. 2C), that for both types of events, 29% of witnesses give durations greater than or equal to $2\mu^*$, 10% for $5\mu^*$ and 3% for $10\mu^*$. If outliers are defined as in boxplots (see legends of Figure 1A), durations longer than 45 s for meteoroids and 180 s for launcher #2290 are anomalous. This definition is reasonable because it corresponds to durations approximately five times higher than the geometric means μ^* . It yields $n = 26$ outliers for

meteoroids and 5 for the launcher, so that 15% of observers can be considered as unreliable with this rule.¹³

Number of Objects, Fragmentation, and Trail

The witnesses observed a main object (single or larger than the others; 87%), several objects of equivalent size (7%), a simple trail with no associated object (5%), or did not give a clear indication (2%). In four events (#1159, #1667, #1769, #2378) there is only one object or, if several are seen, one of them is larger than the others. For the 3 other events, the proportion of witnesses who see several similar objects remains low for #1017 (8%) and #2290 (13%) but is clearly higher for #1461 (31%) which is thus the most singular event from this standpoint.

The main object is sometimes accompanied by up to 3 smaller secondary objects during the whole observation (3%) or is reported to break up into up to a dozen fragments (19%), while the main object continues its course. Some observers speak of disintegration or explosion. The frequency of observed disintegrations varies depending on events from about one-third to very few or zero. Presumably, this feature depends on whether the witness' observation starts before the fragmentation of the object takes place or after it. If this interpretation is correct, the observation of a fragmentation should be correlated with the duration of the observation, which is actually the case.¹⁴

Half of the witnesses described a trail, most often behind the main object (or objects), sometimes alone (5%). The word trail is the most common but sparks, tail, cone, glow, beam, flame, smoke, spray, projection, triangle, comma, light are also found. The proportion of witnesses mentioning a trail is similar across events (it varies in the range 67% to 82%), excepted for meteoroids #1017 and #1461 whose trails were seen by only 27% of observers.

The descriptions of the objects, their fragmentation, and their trails may vary because of actual differences between phenomena, as illustrated by event #1461 for which more objects of similar size were noticed than in the others; or differences in the observation conditions, as suggested by the influence of sighting duration. Without sure norms for judging the truth or error of a witness, reliability is difficult to estimate. However, as with the day and time, we can use surrogate standards by relying on the testimonies. Let's take the example of fragmentations. In 4 events (#1159, #1667, #1769, and #2378; 123 testimonies in all) no fragmentation was described (except by one witness in #1159, which by method we will not take into account). In the three other events about one-third of witnesses (34% for #1017, 35% for #1461, 31% for #2290; 54 witnesses in all) reported a disintegration, which is sufficient evidence that it occurred. Thus, 63% of witnesses correctly reported the presence or absence of a disintegration. The same reasoning applied to trails leads to a reliability of 49%; but in a simpler way, because in all events a trail was mentioned (by

¹³ Drake ("On the abilities and limitations of witnesses of UFO's and similar phenomena") concludes from 113 witness interviews of two bright fireballs in 1962 that "the estimates of duration of the fireball... were remarkably accurate. In these cases, it lasted four seconds, and the estimates were typically between three and five seconds, a remarkably good performance. The estimates of the length of time until the sonic boom were also about right" (between 1 and 5 min, which is correct within a factor of two).

¹⁴ For short-duration sightings, 16 witnesses reported a fragmentation and 84 none; for long duration, they were 29 and 73 respectively. So, a lesser number of breaking-up is observed during short sightings than in long ones and vice-versa for no breaking up. This correlation is significant with P-value = 0.025 (exact Fisher test).

7 or more witnesses), in accordance with what is expected since all bodies at high speed produce an ionization trail in the atmosphere.

Colors

The colors of the main object are indicated by 79% of witnesses. However, this percentage varies across events from 81 to 95% for 4 events and from 41% to 55% for 3 events (#1159, #2290 and #1769). Witnesses utilize a relatively rich vocabulary of 40 terms, including primary (red, green, and blue), secondary (yellow, orange, brown, purple, etc.) and tertiary colors such as “blue-green” etc., a vocabulary further enriched by indications of intensity and saturation. Half of these 40 terms are found in two or more testimonies, and the other half in only one. The colors of the trail differ in several respects from those of the main object: they are less frequently reported (they are mentioned by only 49% of the observers mentioning a trail), and the proportion of trails whose color is indicated varies less across events (in the range 43-64%, except #1461 with 25%). The number of colors mentioned is also smaller (13).

As for several other characteristics, color analysis is hampered by the lack of reference data,¹⁵ since color was briefly reported by a single qualified observer, astronomer Paul Couteau from Nice observatory. He described the trail of meteoroid #1017 as “green and red,” “typical of metallic particles heated at very high temperature which detach from the meteorite as a result of friction and burn immediately.”¹⁶ Thus, one can only rely on the similarities and differences between color descriptions of the same event. The wide palette of colors suggests that differences outweigh similarities and may confirm the plausibility of Drake’s conclusion that “the eye, perhaps especially the dark-adapted eye, when presented with a bright unexpected light, may perceive any color” so that “the colors reported are meaningless.”¹⁷

In order to check this conclusion, we simplified the palette by replacing the tertiary colors by the most frequent primary or secondary color composing them. After reduction, it appears that the most frequently mentioned trail colors for event #1017 are red, green and white (71% of witnesses) in good agreement with Couteau’s description. This confirmation may give some weight to the most frequently reduced ‘color’ we found for the trail, namely white, with two exceptions, #1017 and #1461 (only two witnesses indicate the color of the trail and they disagree: one sees it as red and the other as yellow-green). Interestingly, the white appearance of the trail in most events may explain why so many observers did not report their color, in accordance with the technical notion that white and grey are not colors but shades.

The same procedure applied to the color of the main object (Table 2) shows that the most frequently used terms are green and white (#1017 and #1667), white and yellow (#1461), white and grey (#1159), and white and blue (#1769). For these last two events, their white or grey shade may have contributed to their relatively low percentage of color descriptions (column None). For two events, #2290 (orange and red) and #2378 (orange and green), no white shade was noticed.

¹⁵ This is a common situation. Drake notes about the two 1962 events he studied “we do not know for sure what color the objects were” (“On the abilities and limitations of witnesses of UFO’s and similar phenomena”).

¹⁶ Interview in *Dauphiné Libéré*, quoted in Passot, *J’ai vu un OVNI*, p. 20.

¹⁷ Drake, *ibid.*

So, Drake's conclusions about color vision seem too negative. Indeed, similarities between reports of the same event led to the emergence of dominant colors or shades and to lower reporting frequencies in the case of white and grey shades. Differences are manifested in the variety of terms used which may result from many factors, neural (eye and brain), psychological (attention, memory) and others (reporting).

Table 2. Reduced colors and shades of main object

Event	None	N	Main colors	n	n%	Other colors	I%
1017	6%	140	green white red	115	82%	yellow blue orange <i>dark brown rose</i>	18%
1159	59%	15	white grey blue	11	73%	<i>dark red</i>	27%
1461	19%	25	white yellow green	17	68%	blue <i>red</i>	32%
1667	10%	69	green white orange	50	73%	red yellow blue <i>silver gold black</i>	27%
1769	45%	6	white blue	4	66%	<i>dark green</i>	34%
2290	50%	8	orange red	8	100%	-	0%
2378	18%	14	orange green	11	79%	red <i>black</i>	21%
Mean					77%		23%

Event number. *None*, percentage of witnesses not indicating a color or shade. *N*, total number of terms used by witnesses for describing colors (after reduction) and shades. *Main colors*, two most frequent reduced colors (plus white) indicated by at least 2 witnesses. *n*, total number of colors and shades mentioned in column 'Main colors.' *n%* = *n*/*N* in percent. *Other colors*, other terms describing reduced colors and shades (in italics if used by a single witness). *I%* = 100 – *n%*, percentage of colors and shades mentioned in column 'Other colors.' In columns 'Main colors' and 'Other colors,' colors and shades are ranked by decreasing frequency.

Altitude

Although altitude is of a wholly different nature from time and duration, let's start by studying it with the same methods as for these variables (Figure 3). The altitude of the phenomenon is given, in meters or kilometers, by only 20% of the observers,¹⁸ a proportion so small that in the two events with the least number of observers (#1769 and #2378, see Table 1), neither of them gave height values. In the five remaining events, two extreme outliers are found (at 125 and 150 km) that are 2 orders of magnitude larger than the values given by the other witnesses (Figure 3A). Once these outliers are removed, we get a clearer view of the data (Figure 3B), showing that both the medians and the IQRs (central rectangles) vary much more between events than in the case of times and durations, which may also result in part from random fluctuations due to the small number of values per event. Nonetheless, the last plot (Figure 3D) shows that the heights of all events together are very well-fitted with a lognormal distribution of median $\mu^* = 300$ m.

Of course, this perceived altitude is definitely wrong. Actually, most meteoroids and artificial satellites burn in the atmosphere at an altitude of between 120 and 80 km.^{19, 20, 21} So, the impression of observers is about 300 times smaller than it should be! Clearly, the altitude given by these 20% witnesses has no objective value. For this variable, eyewitness reports are completely unreliable.

¹⁸ Wertheimer ("Perceptual problems") found in 13 of 30 "relatively complete reports" of Zond IV re-entry that the estimated altitude or distance was less than 20 miles (32 km), which is much more than in our sample (20%).

¹⁹ Jeanne, *Méthode d'analyse statistique appliquée au réseau d'observation européen des météores FRIPON*.

²⁰ American Meteor Society.

²¹ Kotten et al., "Atmospheric trajectories and light curves of shower meteors."

Should we be surprised? Not really, because the altitude and distance of an object seen in the sky cannot be determined without prior knowledge of its size or nature.²² Only *angular* height and size can be determined. Unfortunately, this simple rule does not seem to be known by most observers and investigators (only 4% witnesses gave height in degrees). The only two observers who gave a correct altitude are the astronomer Jean Couteau (150 km, event #1017) and a pilot in flight (125 km, event #1667), surely (for the astronomer) or probably (for the pilot) because of their scientific knowledge of meteoroids. The two other large values (25 and 12 km, in event #1159) were possibly influenced by what the observers knew about the altitude of airliners. Except for those 4 cases and possibly 9 others where the object was felt as “high” (4%), most observers judged that its height was less than 5 km or “low” (32%).

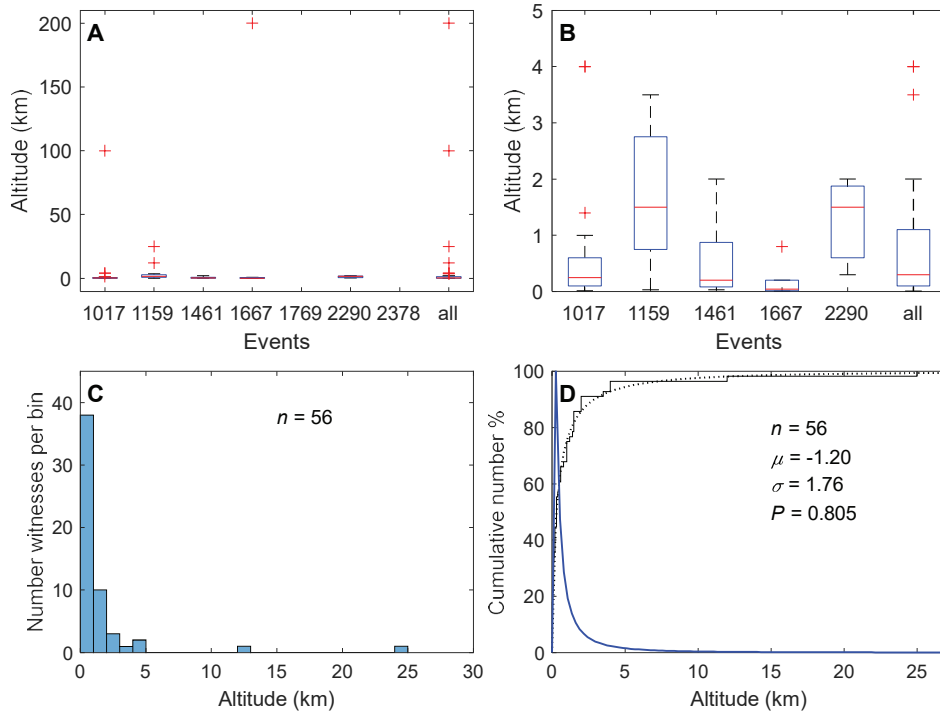


Figure 3. Subjective estimates of altitude of atmospheric entries. **A.** Boxplot of altitudes for 5 events (no estimate for 2 events, #1769 and #2378) and for all 5 events together. **B.** Same as A for altitudes below 30 km with view restricted to 0-5 km (two outliers in event #1159 are not shown). **C.** Histogram of altitudes. **D.** Distribution of altitudes less than 30 km; same representation as in Figure 2 with lognormal CDF and PDF. Lognormal fit not rejected at level 5% (P-value = 0.8).

However, human perception is not as fallible as the previous results may suggest because not only do many eyewitnesses express doubts on their ability to estimate the height, but, more significantly, the majority of them (56%) do not provide any indication about height, even qualitative (like “high” or “low”), which is much more than for time (6%) and duration (29%). This wariness might reflect a widely shared feeling that determining height was not possible under their conditions of observation.

²² As stated by Wertheimer (“Perceptual problems”): “an unknown, vaguely defined object in the undifferentiated sky can appear to be of any size or at any distance, depending on the inferences made by the observer.”

Distance

The distance of the phenomenon is given quantitatively (in meters or kilometers, 14%) or qualitatively (“near” or “far,” 2.5% each) by a minority of witnesses, whereas the majority prefers to abstain from any indication (81%). So, witnesses are even more reluctant to give a distance than an altitude. However, for those who dare to provide a quantitative value, the results are very similar for distance and altitude (Fig 4), although only 18 people give both values. Most entries are felt to take place at less than 5 km (Figures 4A and 4B). Distances follow a lognormal distribution with a median distance of about 650 m (Figure 4C) which is practically identical to the distribution of altitudes (Figure 4D).

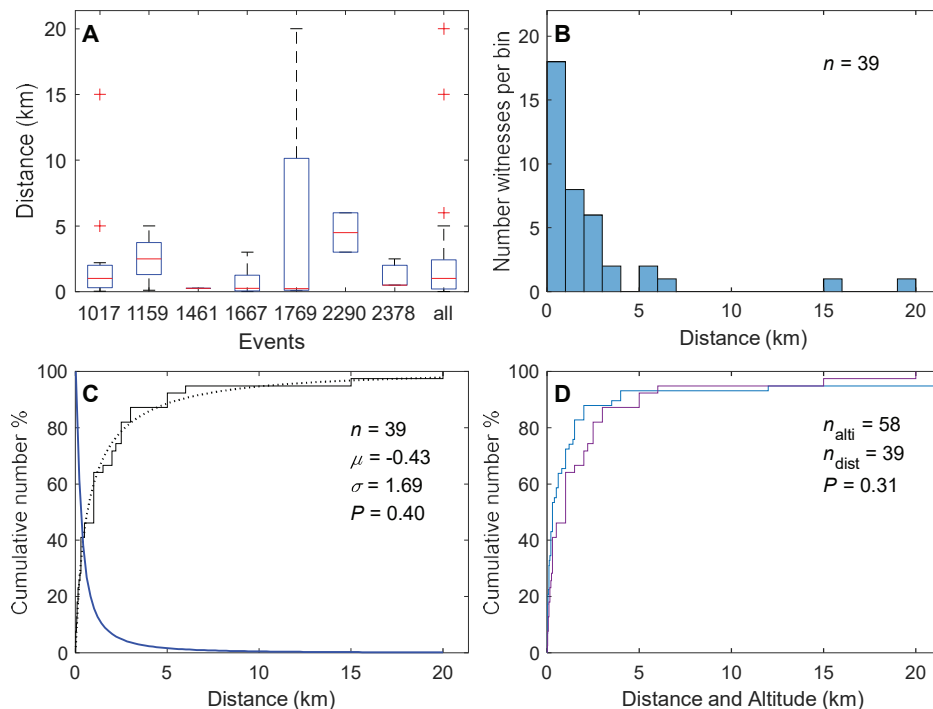


Figure 4. Subjective distance of atmospheric entries. Same representation as in Figure 3. **A.** Boxplot of distances per events and for all 7 events together. **B.** Histogram of distances. **C.** Distribution of distances fitted to a lognormal distribution (not rejected at level 5%, $P = 0.40$), same representation as in Figure 2. **D.** Comparison of cumulative distributions of distances (purple staircase) and altitudes less than 100 km (blue); null hypothesis (altitude and distance are drawn from the same underlying continuous population) cannot be rejected at the 5% level (P -value = 0.31).

This near identity is in blatant contradiction with reality, because distance is typically greater than altitude in atmospheric entries. A meteoroid entering the Earth atmosphere just above an observer (height 90°) is at the shortest possible distance (about 100 km). At the other extreme, a meteoroid entering the atmosphere close to the horizon (height 0°) is at the maximum possible distance because the curvature of the Earth limits the horizontal distance at which it can be seen before it becomes invisible below the horizon. An elementary geometrical calculation shows that the maximum distance is approximately in the range 1000-1200 km. Thus, distance can be up to about one order of magnitude greater than altitude, depending on the height of the meteoroid above the horizon. As a result, the discrepancy between the distance reported by the most naïve observers and the actual distance is still greater than for the altitude.

The near identity of perceived distance and perceived altitude is consistent with the idea that both perceptions result from similar unconscious processing, possibly based on experiences gained with lights seen at closer distance. Extrapolating from these ordinary experiences shared by all observers leads to wrong estimates in the case of powerful faraway lights as seen in atmospheric entries.

Direction of Motion

The majority of observers report the apparent direction followed by the object (71%). However, this indication may be given ambiguously (like NE-SE or E-SW; 7%), incompletely (e.g. to the S; 5%) or with respect to geographical landmarks (7%; we have not analyzed these indications). Finally, direction is given clearly by 52% of witnesses, mostly with respect to the four cardinal directions (e.g. N-S, etc.), less frequently with respect to the intermediate directions (NE-SW, SE-NW, etc.) and rarely using the other subdivisions of the compass rose (only 4 occurrences, all NNW-SSE). At first sight, the directions reported seem very messy. For example, in the event #1017 reported by 117 people, one finds 58 regular directions, namely 27 N-S, 19 E-W, 12 NE-SW, plus 3 other directions each given by a single witness. Other directions are ambiguous (E-SW, ENE-SSW, NW-SSE) or in contradiction with the regular ones, either opposite (S-N, SW-NE) or perpendicular (SE-NW, SE-NW then S). It is tempting to conclude that data as diverse and contradictory as those are unusable and to reject them as a whole. However, this quick conclusion is not warranted.

Indeed, let's consider the case of an object moving in a plane almost perpendicular to the vertical of the witness, which is consistent with the horizontal trajectories often reported. This witness can determine the object direction if and only if it passes overhead (as reported for case #1017 by a witness in Corsica). If this condition is not met and if we assume that he/she cannot appreciate any variation in distance, the direction of motion cannot be determined. Then the trajectory appears as an almost horizontal line in the observer viewing direction (this line is the projection of the real trajectory on the vertical plane perpendicular to the viewing direction). Then, the only things the witness can actually observe are the viewing direction and the object motion to the right or left. Whatever the heading of the object (except for a trajectory oriented towards the witness), if he/she is looking towards the North (or the South), the object will be seen as moving from East to West (or vice versa), if he/she looks westward (or eastward), he/she will judge that it is moving from North to South (or vice versa), etc. The generalization to other viewing directions is straightforward. So, for a distant object flying NW-SE, it may happen that some say N-S (they look E), others W-E (they look N), still others NW-SE (they look NE). Contrary to appearances, these directions do not necessarily contradict one another. Witnesses would only contradict if some described trajectories oriented S-N, E-W or SW-NE, i.e. an object travelling in the opposite direction.

With this narrower definition of what can be considered as an inconsistency in the reported directions, we can analyze the available data of each event. Here again we only consider the directions given by at least two observers. Table 3 shows that besides a few ambiguous directions, inconsistent directions are found only for event #1667 with 3 witnesses reporting an East-West movement, which contradicts all other 30 reports. This small number of inconsistencies ($3/137 = 2\%$ of analyzed directions) is surprising because we expected that many witnesses would not be able to correctly identify the cardinal directions, especially far from home. The available data do

not confirm this expectation.²³ However, the consistency criterion utilized is relatively imprecise ($\pm 45^\circ$), so that the small percentage found might be a mere consequence of this tolerance to orientation errors.

Table 3. Main directions of motion reported and corresponding number of witnesses

Event	n	None	Geo	Inc	Amb	Uni	Main	regular	directions	Sum
1017	117	34	16	2	4	3	N-S:27	E-W:19	NE-SW:12	58
1159	35	17	0	3	3	1	S-N:5	SW-NE:3	W-E:3	11
1461	26	3	0	0	6	2	S-N:8	SE-NW:5	E-W:2	15
1667	64	14	4	6	5	2	N-S:13	W-E:10	NW-SE:5 <i>E-W:3</i> NNW-SSE:2	33
1769	11	3	0	0	0	1	N-S:7			7
2290	16	3	0	0	0	2	N-S:6	W-E:3	NNW-SSE:2	11
2378	14	7	0	2	2	1	N-S:2			2

Event number. *n*, number of witnesses. *None*, no direction reported. *Geo*, geographical landmarks (not analyzed). *Inc*, incomplete directions. *Amb*, ambiguous directions. *Uni*, number of directions indicated by only one witness. *Directions*, main regular directions mentioned by at least 2 witnesses (in descending order of number of witnesses). *Sum*, number of witnesses in columns ‘Main directions’ (137 witnesses in all). Inconsistent direction in bold italics (E-W in #1667).

Interpretation of Observed Phenomena by Witnesses

The two most common interpretations of their sighting by witnesses are “UFO” (*ovni*) and “meteor or spatial debris,” although other interpretations are also given (optical effect, plane on fire, tractor with flashing beacon) but only in a few reports. The word *ovni* is found in 17 testimonies (6%). Adding descriptive terms like *hublots* (portholes) and *engin* (craft), about 11% of witnesses evoke an artificial machine. The words “meteor,” “meteorite,” “bolide,” “body in the atmosphere,” “atmospheric entry” appear in 25 reports (9%, I have removed from this count the witnesses who think they have *not* seen a meteor).²⁴ In three cases the witness considered both hypotheses and did not choose. In most reports no interpretation is given.

Does the witness’s interpretation influence the reported characteristics of the object or vice-versa? This idea can be tested by crossing the witness’s interpretation (meteor or machine) with the distance or altitude of the object (estimated numerically or not) assuming that the witnesses who give an estimate are more prone to the illusion that the objects are close. For altitude, Table 4 shows a slight relationship that is in line with this expectation, since those who interpret the phenomenon as a strange flying craft give an altitude (much too low as we have seen) a little more frequently than those who see a meteor.²⁵ It means that the impression of proximity felt by

²³ In his doctoral thesis (*Témoignage d’ovni et psychologie de la perception*) Jimenez notes that the reported directions are “often adequate,” but without further explanation.

²⁴ Wertheimer (“Perceptual problems”) found 12 reports suggesting meteor(ite) or satellite in his sample of “relatively complete” reports (i.e. 40% of the sample).

²⁵ This apparent relationship is not statistically significant, and thus might result from a mere random fluctuation. Likewise, the table “interpretation vs. distance” displays no significant relationship (P-value = 0.68, Fisher test). However, Jimenez (*Témoignage d’ovni et psychologie de la perception*) found a significant dependence in a contingency table crossing 4 distances (unreported or far, above the horizon, below the horizon, metric) and 6 descriptive terms (light, phenomenon, object, craft, flying object) and in a factorial correspondence analysis, a statistical method that makes use of many characteristics at once (see also his book *La psychologie de la perception*). In addition to the modalities used, including the absence of the term “meteor” in his list of denominations, a major

witnesses influences their interpretation to some extent, although it does not really determine it. It suggests that for the majority of witnesses (21 of 32 to 20 of 25) the high-level processes (interpretative) are not dominated by the low-level ones (sensory).

Table 4. Cross-tabulation of witness' interpretation and altitude

		Altitude		Sum
		Metric	Not metric	
Interpretation	Meteor	5 (7.0)	20 (18.0)	25
	Machine	11 (9.0)	21 (23.0)	32
Sum		16	41	57

Number of witnesses interpreting the observed object as a meteor (with altitude estimated numerically or not) and as a machine (idem). Numbers in parentheses (products of the marginal sums divided by grand total $n = 57$) are expected if both variables are independent. Null-hypothesis (independence of variables) not rejected at level 5% (P-value = 0.18, Fisher exact test).

Another question is: How many witnesses were deceived to the point of believing that they experienced a close encounter with a UFO? Considering encounters as close when made at 300 m or less, our sample includes 16 sightings (6%) of this kind (of which 3 are at 50 m or less), plus 7 sightings (2%) judged "close" without further clarification. The most remarkable testimony of this subset comes from a witness who was a nine-year-old boy when he saw the meteoroid #1017 in 1980. Here are some excerpts of his report sent to GEIPAN in 2011:

We saw an oval, stationary, very luminous object at less than thirty meters, at about twenty meters above one of the fields. The object flew silently and was illuminated with changing colors, from green to orange. I was so frightened that I lay down between the seats of our Renault 16.... The object slowly moved vertically, then sped southwards... at a speed that could be interpreted as a simple 'disappearance.' During this lightning acceleration, three white luminous balls escaped from the object and followed it at the same speed.... My natural interpretation was that visitors from outer space had landed near the house, and that this had to mean something.... Having informed myself about the technical possibilities of such a [supersonic] aircraft in 1980..., it seems to me reasonable to think that its origin was extraterrestrial.

In addition to the false impression of proximity, the object's movement (stationary, then slow vertical displacement and lightning acceleration) and observation time (1-2 minutes) are distorted. The rest of the description is in good agreement with those of other witnesses, including the three balls behind the main object that were mentioned several times, and leaves no doubt about the meteoroid identification. It is noteworthy that the reconstructions provided by the witness show the phenomenon against the sky background. The young age of the witness and his fear may have contributed to his wrong interpretations.

The two other sightings at short distance (20 and 30 m) are less interesting because, as an exception to the rule, the police report gives no verbatim accounts from the witnesses but only a sketchy summary. The few characteristics given are consistent with the fireball #1667 except for the distance. The fourth sighting (at 60-70 m, #1017) is also exceptional because the witness saw an

difference with our study is Jimenez' inclusion of the spectacular re-entry of a Proton launcher on November 5, 1990, which alone generated over 500 police reports. See Reference #4.

object apparently motionless, but he was driving at 40 km/h. None of the other sightings felt at close range present any “eccentric” element, except for the use of the expression “it looked like a flying saucer” (#1159).

In summary, in 21 of the alleged 23 close encounters, only the distance given is clearly wrong, the other descriptive items being consistent with an atmospheric entry. The frequency of eccentric testimonies is therefore 2/23 (9%) or 2/283 (0.7%, where 283 is the number of testimonies studied) according to the chosen reference.²⁶

The Many Facets of Reliability

Are witnesses reliable? A yes or no answer to this question would certainly be unwarranted, and even trying to capture witness reliability with a single measure without further caveats would be equally misleading, as reliability varies between practically 0 and 100% depending on the characteristics considered. For the 12 spatial, temporal and structural characteristics we have studied, reliability is primarily affected by three factors.

The first factor concerns whether an observer can actually know a given characteristic based on the sensory data (column “Access” in Table 5). The spatial characteristics (altitude, distance, size, speed) cannot be known directly except in special circumstances, such as with an object of known size, or passing in front of a background at known distance, or seen from two places sufficiently distant to allow a triangulation, or close enough for binocular vision to operate.²⁷ The direction of motion is reliable only if the object passes vertically over the witness. Apart from these special cases, the witness reliability for the absolute spatial characteristics is a priori null. This is not a question of reliability as such but of principle. Thus, asking a witness the height, distance, size (in meters) or heading of an unknown object in the sky has hardly more sense than asking him its chemical composition or its country of origin (if any). What is at stake here is not the reliability of the observer but of the investigator or analyst.

In contrast, most other characteristics, like viewing directions, date and time, duration, aspect, and colors, are directly accessible, at least in principle. Nonetheless, they differ in how one decides whether a witness statement is true or false or how much it deviates from reality (column “Norm” in Table 5). We know, for example, that atmospheric entries are visible at altitudes between about 80 and 120 km and that their duration is less than about 20 s (meteoroids) or 60 s (artificial satellites). Even though they are rough, these values are useful references for our purpose. All other characteristics – date, time, directions of observation, colors – vary from event to event. No constant references being available, norms must be established for each event based on instrumental records, expert accounts, or some form of averaging procedure (best illustrated here by the times given by witnesses which apparently peak around the actual time of the event). In practice, we used 3 types of norms (column “Criterion” in Table 5): (i) partly arbitrary thresholds beyond which the witness is assumed to be in error (date, time, duration); (ii) norms fixed by the

²⁶ Menzel (“UFOs—The Modern Myth”) gives 3 examples of eccentric testimonies following the re-entry of satellite Zond IV on March 3, 1968. He only states that “hundreds of people made detailed reports of their sightings.” Hartmann (“Process of Perception, Conception, and Reporting”) for the same event mentions 78 records. Thus, the eccentricity ratio would be between 1% (if we assume 300 records) and 4%.

²⁷ Readers interested in distance perception should refer to chapter 4 of *Témoignage d’ovni et psychologie de la perception*, where Jimenez reviews the literature on this subject. See also Maugé’s chapter in this volume.

method itself (motion, trail); and (iii) norms derived from the majority (or unanimity) of witnesses (fragmentation, colors, apparent heading). The reliability of accessible characteristics ranges from 49% to 98%, the qualitative characteristics being less reliable on average than the quantitative ones (Table 5).

A third factor plays an important role: the number of testimonies providing data about a given characteristic. As shown in column “Responses” of Table 5, it varies from 14% to 100% for the characteristics studied. Characteristics with lower frequencies would be more difficult to study. Obviously, this frequency depends on the witnesses but also on the investigators and reminds us that the quality of the investigations could be improved, particularly for angular and distance data.

Table 5. Overview of factors involved in witness reliability for 12 characteristics

Characteristic	Scale	Access	Norm	Type	Resp.	Reli.	Criterion
Distance	quan	no	no	zero	14%	0%	-
Altitude	quan	no	yes	zero	20%	1%	- or >40 km
Heading	quan	no	no	zero	52%	-	-
Trail	logi	yes	yes	intrinsic	49%	49%	always present
Fragmentation	logi	yes	consistency	majority	98%	63%	majority
Color object	qual	yes	consistency	majority	79%	77%	majority
Color trail	qual	yes	consistency	majority	27%	80%	majority
Duration	quan	yes	yes+mean	threshold	71%	85%	≤5 median (μ^*)
Time	quan	yes	mean	threshold	94%	96%	≤30 min
Date	quan	yes	mean	threshold	100%	98%	≤1 day
Motion object	logi	yes	yes	intrinsic	51%	98%	always moving
Apparent heading	quan	yes	consistency	majority	48%	98%	majority

Characteristics studied ranked by increasing reliability and classified in 3 groups (non-accessible, accessible qualitative and accessible quantitative). *Scale*, measurement scale of the characteristic: logical (true/false), quantitative (quan) or qualitative (qual). *Access*, characteristic directly accessible to witnesses (at least in principle) or not. *Norm*, the true value of the characteristics cannot be known by the analyst (no) or can be known approximately from the literature on atmospheric entries (yes) or from all witnesses of the same event (based on mean or internal consistency). *Reliability type*, in four categories: zero a priori, given with respect to a threshold, intrinsic to the method proposed, or based on the majority of witnesses. *Response*, percentage of witnesses providing information on the characteristic. *Reliability*: number of correct responses (according to the specified *Criterion*) out of total number of responses (non-responses excluded, except for Trail), expressed in percent.

Based on these three factors (access, norms and report frequencies), the reliability of a characteristic is measured by the number of correct responses (according to some specified criterion) out of the total number of responses, expressed in percent. This reliability measure mainly reflects the perceptual and cognitive performance of the observers but inevitably includes a component related to the investigators and analysts.

Events with a Single Witness or Only a Few Witnesses

Can these results be applied to events of unknown origin with only one or a few witnesses, which are the most frequent in UAP archives? If the reliability estimates of various characteristics expressed in percent in Table 5 do not depend too closely on the specifics of atmospheric entries, they should be applicable to the same or comparable characteristics in single-witness events, at

least as a first approximation. They indicate what would happen if the observation could be repeated with several witnesses instead of a single one.

Conclusions

Witness reliability is not a simple concept, as it is highly dependent on the characteristics studied, the methods used, and the expected accuracy of the results.

(i) As for all characteristics, the reliability of time indications decreases with their precision. The less precise indication, date, is exact for 98% of witnesses; followed by time with 96% of time estimates given with an error not exceeding 30 min and 82% not exceeding 10 min. Duration is much more demanding; usually purely subjective, it apparently tends to be overestimated, and can exceed 5 times the true duration for 15% of witnesses due to the long tail of its lognormal distribution.

(ii) Indications of height and distance are grossly underestimated and are of no value unless they are corroborated with respect to an element of the environment at known or knowable distance. Investigators could greatly improve these indications by helping witnesses provide objective information (e.g., angular data instead of metric data) and by using non-verbal methods to measure them.²⁸

(iii) Reported trajectories are unreliable but seem to be convertible into sighting directions, albeit with a rather large uncertainty of $\pm 45^\circ$. For azimuths, as for angular heights and other characteristics, much better measurements could be obtained by using non-verbal methods, which again shows that reliability is not a static notion but depends on the methods of investigation.

(iv) The qualitative details relative to structure and colors of objects (like presence of fragments or a trail) depend in a complex way on their intrinsic visibility, and the observational skills and sensory limitations of the witness. Obviously, many details, as shown by the example of the trail, will not be described even when present. Other details, more frequently reported like the colors of the main object, seem consistent across up to about 75% of witnesses; it means that the probability for a witness to correctly report the main colors of a phenomenon is about 0.75, or equivalently that 1/4th of hypothetical witnesses of the same event would report different colors.

(v) The reliability of the qualitative characteristics (colors, tail, fragments), which varies between 50% and 80%, appears to be lower than the reliability of the accessible quantitative characteristics (duration, time, date, movement) which is between 80 and 98% with the chosen criteria.

Although there is considerable room for improvement in previous analyses, this five-point summary based on a sample of atmospheric entries of meteoroids and satellites provides useful guidelines for assessing other types of UAP events. However, further studies are needed to better understand differences with previous studies and to estimate reliabilities of other events of longer duration, at shorter distance, involving objects of different structure and light intensity, and with witnesses from other countries, times and states of mind (for example: frightened).

²⁸ I give examples of such methods in Reference #14. Non-verbal methods are also advocated by Shepard ("Some psychologically oriented techniques for the scientific investigation of unidentified aerial phenomena.")

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V
ANTHROPOLOGICAL APPROACH

Inside a Spaceship: Cognitive and Social Aspects of an Alien Contact

Ignacio Cabria

Abstract: The recollection by a contactee group in Spain, the Grupo Aztlán, of a physical experience of alien contact is analyzed as a process of psychosocial construction.

Keywords: Grupo Aztlán, Physical contact, Hypnosis, Psychosocial construction of memory, Process

Introduction

Considered the most influential contactee group in Spain, Grupo Aztlán reported in 1992 an experience of physical contact with aliens inside a spacecraft. This article analyzes the process of psychosocial construction of the memory, which follows a pattern that the group had worked on repeatedly in previous “energy level” experiences. The members of Grupo Aztlán gave coherence to ambiguous perceptions and sensations according to a cognitive-symbolic complex that contains a significant belief in extraterrestrial contact. The ontology of the event is culturally determined: the encounter inside the spacecraft is a prefabricated and shared model in the UFO subculture as an expression of the numinous and of the sacred, and of an announcement of a promise of salvation.

One of the phenomena that most challenges the understanding of those of us who have studied alien contact groups is that of “physical contact” experiences inside a spacecraft, such as those claimed to have been experienced by the most important contactee group in Spain: Grupo Aztlán. This review of the experience is based on the fieldwork I carried out with the group between 2002 and 2003 for a thesis in social anthropology (Cabria, 2003). In it, I contemplated different aspects—historical, sociological, and cultural—of their trajectory of alien contact, as well as the cognitive aspects of learning and elaboration of the doctrine and experiences of telepathic and physical contact with “Elder Brothers” from space. It is this last aspect that I want to focus on.

Grupo Aztlán was born in 1975 as a small circle of friends, and was throughout its life a closed group of between five and twelve members until its dissolution in 2005. At the beginning, they were inspired by the alien contact of the Peruvian Sixto Paz and his companions, which began in January 1974 and gave rise to an international contactee movement called Misión RAMA. As a result of the dissemination of the Peruvian group’s experience by the Spanish journalist Juan José Benítez in the book *OVNIs: SOS a la humanidad* (Benítez, 1975), groups of UFO contact seekers spread throughout Spain in 1975 claiming association with Misión RAMA. The doctrine of this movement was focused on the messianic expectation of salvation by some cosmic *guides* who, in the face of a great world holocaust, would save a part of humanity on other planets, with the hope of returning in the future to regenerate Earth. Misión RAMA’s message was from its beginnings a classical millenarian movement.

In Madrid in 1975, two couples who knew each other and who had read Benítez’s book and knew what the Misión RAMA groups in the cities of León and Bilbao were practicing, began to try their own contact by means of the Ouija board. This technique was at that time in vogue as entertainment among young people for spiritualist communication. Along with other friends, these two couples then formed Grupo Aztlán. This group soon became critical of the personalities that dominated in

Misión RAMA because of its hierarchical centralization based in Peru, while they were an ensemble that avoided a defined leadership. They also rejected the ritualism that dominated the practices of the Misión RAMA groups. For example, two large gatherings of Spanish groups were convened in the countryside in 1979 and 1980 in the province of León, to fulfill the rituals of assigning *cosmic names* and receiving *cesium crystals*, a kind of baptism into contact. Although Grupo Aztlán was invited, they did not attend. Instead, they decided to follow a route of their own, without the ritualism that they considered artificial.

From 1981 onwards, while the notion of alien contact in general was entering a crisis and groups were disbanding, Grupo Aztlán was able to consolidate itself by emphasizing group work, in a silent way, following a very personal metaphysical path. While the Spanish Misión RAMA groups had stuck to the same extraterrestrial *guides* with whom Sixto Paz connected, Grupo Aztlán had an exclusive alien guide, Acael, “a human being of level 4.3” on the universal evolutionary scale. Throughout the 1980s, the group opened up to a new stage of contact, consisting of receiving through the Ouija board “teachings” on different subjects, which were imparted to them by different cosmic *guides*. Instead of remaining with the millenarian doctrines of Sixto Paz about an apocalypse that would regenerate the surviving humanity, Grupo Aztlán evolved in the 1990s towards the elaboration of techniques of personal growth, while experiencing life in a small group as a seed from which to build a new humanity.

Grupo Aztlán was always faithful to the technique of alien contact through the Ouija board, because to them it seemed more “objective” than the channeling by a single person of the messages by automatic writing, as the Misión RAMA groups did. As Grupo Aztlán members explained to me, by requiring several people to place a finger on the glass in the Ouija board, the communication was less prone to individual “mentalism” being introduced into the message. They knew that they were consciously moving the cup, but believed they were channeling a message they received from the guides telepathically in their minds. One of the group would write down the guide’s communications. The information would then be discussed by the group, who would ask questions of the guide, in an ongoing dialogue. The working sessions were an interaction from which consensual learning and a shared narrative emerged. The “teachings” in different subjects received from the guides made up several books.

Seeking Physical Contact

The night watch of UFOs was from the seventies onwards a popular activity of UFO groups, which has continued to this day in massive sessions known in Spain as “Alertas Ovni” (UFO Alerts), in which the media participate with enthusiasm. Waiting for UFOs was also a central point in Misión RAMA’s contactee practice. Shortly after establishing alien communication by automatic writing in January 1974, Sixto Paz and his companions asked their guide Oxalc for physical proof that the contact was real. The guide Oxalc summoned them to the Chilca desert, south of Lima, where they observed a luminous disc descending close to where they stood. Months later, in another outing, Sixto and other companions said they had a vision of their guide Oxalc and experienced a translation to Ganymede (a moon of Jupiter) through a luminous bubble, or interdimensional gateway, called *xendra*. There they saw the twenty-four elders who led the Confederation of Planets of the Galaxy. Six months later, they had a physical encounter with the guides inside a spaceship where a doomsday message about the future of humanity was imparted to them.

Following the inspiration of the Peruvians, the Spanish groups of Misión RAMA included from the beginning among their activities the UFO watch in the field, following an appointment relayed by their guides through automatic writing. Surprising stories of encounters can be found in the biographies of those who participated in these “alerts.” Not wanting to seem inferior, Grupo Aztlán repeatedly asked Acael for visual confirmation of their telepathic contact, but the guide repeatedly replied, “YOU ARE NOT READY.” Curiously, this was the same answer that Sixto Paz had also received in the beginning. The physical contact became a real obsession for Grupo Aztlán, until eventually they managed to get some appointments for UFO sightings at a certain time of the night and in a specific place. On those occasions, in the countryside or in the mountains, they saw lights in the sky and experienced special sensations, but they expected more. Back home, they required an explanation from their guide as to why the ships had not appeared, while the Misión RAMA people had recounted so many extraordinary sightings. In one of those communications, Acael gave them a surprising answer: the spaceships had been there and had tried to lower their vibrational level, but the group had not been able to perceive them. In addition, he warned them of the danger of too premature a contact, saying: “WHAT HAPPENS TO A DEVICE DESIGNED FOR 75 VOLTS IF WE PLUG IT INTO A 1,000-VOLT CURRENT?”

Over time, the Grupo Aztlán members had some extraordinary experiences of being lifted up into a spacecraft which they believed occurred on an “energetic” or “astral” level. They reported that inside the ship, in a large circular room with illuminated walls, they met their guides and the twenty-four white-robed, hooded elders. The language in which these episodes were reported does not, however, give us much certainty about their factual reality. According to some of their testimonies, these contacts took place on the threshold between the real and the imaginary, between the conscious and the unconscious, between the mundane and the numinous, a liminal environment between our ordinary world and that of altered consciousness. But for the members, they were significant and fundamental events in their evolution as seekers of a spiritual path.

The most complete experience, which they consider to be a real “physical contact” with their guides, took place on the island of Tenerife on the night of January 25, 1992. This event, one of the most remarkable in the history of Spanish contactees, is the subject of this article.

Experience Inside a Spaceship

Following an appointment given by their guide, five members of Grupo Aztlán travelled to the island of Tenerife in expectation of the long-awaited physical encounter. On the night of January 24-25, on the mountain, lying in a circle on the grass, they meditated waiting for the contact. At the appointed time, a strange cloud of bluish light hovered over them and they saw flashes of light illuminating the surrounding hills. At that moment they felt that something special had happened, without knowing exactly what.

Meeting three days later in a contact séance, Acael told them: “YOU LIVED AN EXPERIENCE INSIDE OUR SHIP” (Grupo Aztlán, 2001, p. 300). He then clarified that they were transferred in the blink of an eye to the physical meeting in the ship, in which they analyzed the group’s program up to that moment. In the following nights the Aztlán members had dreams in which they remembered snippets of strange images. In hypnosis sessions, led by one of the member and by some specialists linked to ufology, strange recollections began to surface. For two months they reconstructed the memory of that night, which they shared in order to contrast their different

personal experiences. The following is the group's conscious reconstruction of the event on the mountain from "recovered memories": The bluish cloud above them was a ship from another world, from which a column of light descended. Then they felt being pulled by the head and saw themselves ascending the "solid light beam," just as they had felt in other experiences in "energy level." Again, they found themselves in a large circular room where the walls seemed to have a light of their own. There they saw several tall men and women with long blond hair who were manipulating panels and monitors without paying attention to the visitors. In an adjoining room were the same old men in white hooded robes that they had seen before. An elder with a white beard touched their foreheads and they suddenly found themselves on a journey into the past, where they came to understand how their lives have been programmed. They then heard a voice within them saying, "When you leave here, you will bear the stamp of consciousness," and the old man encouraged them to continue working on the path of self-improvement. It was in that moment that they were able to see Acael "physically for the first time." He was tall, very blond, and with slanted blue eyes, just as they had seen him in their previous experiences on another level of reality. There were also the other masters, the ones who had accompanied them on their learning path for so many years. The group received from them a recharge of energy in their brains, in a replay of past sensations, and finally they descended through the light beam until they were back lying in the meadow.

After this experience in the Canary Islands, the group had another experience in an energy or astral level in which they descended to an "undersea base," where they attended an assembly of the Confederation of Worlds of the Galaxy. But this is not part of this article.

Perception and Cognition in a Collective Experience

The "physical encounter" in Tenerife was narrated to me by each of the five participants with such a degree of affirmation and emotional charge that I would have to accept that it was in some way an experience that was really lived. In my view, the key to understand this contact lies in analyzing the socio-cognitive aspects of the observation, that is, both those of perception and cognition and the form of socialized construction of memory. The members of Grupo Aztlán followed a typical pattern of search for meaning described by French (2015) in abduction experiences. The Tenerife encounter was the end result of a process of interpretation, consisting of the following distinct moments: the anomalous perception on the mountain, the feeling of "missing time," the messages from the guide Acael in Ouija sessions confirming the encounter, the dreams in which they see snippets of meaningful images, the recovery of memories through hypnosis, and finally the elaboration of a common narrative about an encounter inside a spaceship.

Lynn and Kirsch (2006) have pointed to a series of procedures that can increase the risk of false memories and encouraging fantasy and imagination in abduction cases: hypnosis, relaxation, guided imagery, dream interpretation, and free association. They propose a pathway to false memory creation that follows a series of steps, which I would summarize like this: first, a person is predisposed to accept the idea that certain puzzling or "inexplicable" experiences are signs of an abduction; second, the person seeks the help of a hypnotist with a familiarity with the UFO subject; third, the hypnotist frames the experience in terms of an abduction narrative. Also of great importance is the role of pre-existing culturally derived beliefs that "reflect basic elements of a UFO contact script that are part and parcel of our culture, as represented in movies, books, tabloids, and cartoons." This framework is common to the pathway followed by Grupo Aztlán.

At first, we can consider how the cloud that the witnesses saw above them came to be interpreted as an alien spaceship, an image loaded with quasi-religious overtones, as a sacred space in which communion with the divinities represented by the space beings takes place. From early studies on the psychosocial factors of UFO observations it was argued that our perception tends to interpret ambiguous stimuli in ways that fit and support prior knowledge, and when the belief system is strong it is likely to be defended even against logic, in such a way that an ambiguous event is assimilated into the pre-existing belief. Furthermore, we live organized in social systems and have a tendency to hold beliefs consistent with those around us. Robert Hall (1972) pointed out, concerning collective observations: “In fact I would find it puzzling and behaviorally anomalous if witnesses to a dramatic, ambiguous event promptly interpreted it in a way that lay outside their previous beliefs and contrary to the beliefs of others around them” (p. 216).

In the Grupo Aztlán outings, they saw UFOs and perceived other visual stimuli that they considered significant within the framework of the contactee subculture in which they participated. On several occasions they saw a bluish cloud descending above them and flashes of light illuminating the hills, accompanied by strange sensations. The group came to the encounter with expectant attention to any anomaly, and we can understand that in these circumstances they did not identify their perceptions as known natural phenomena, that is, they did not establish a connection between the visual information and the contents of their memory. We can posit that in this case the cognitive system of the witnesses makes a representation of a different reality, an encounter with cosmic Elder Brothers, in accordance with the contemporary alien myth. Let us see how the human *conceptual device* would operate this displacement of the interpretation of the visual phenomenon to perceive it as an otherworldly craft. We know that every visual stimulus is made to fit into a category of experience, but in the case of an anomalous observation the identification is not satisfied, and this triggers the search for meaning. According to Dan Sperber’s (1974) model, the cognitive process of interpreting an anomalous primary stimulus shifts to our *symbolic device*, which in an evocative process reviews all that we have consciously or unconsciously learned from popular culture, in this case from the UFO and contactee subculture. The symbolic interpretation of the anomalous stimulus as a UFO worked for the members of Aztlán as a *representation system*, adding a whole set of meanings of a spiritual communication with superior beings from the cosmos. The experience was, ultimately, an interpretation.

The fact that we are considering a collective experience makes it all the more relevant for the understanding of the socio-cognitive process that took place in the months after the “encounter” in the field. As William Dewan (2010) has pointed out, “different individuals sharing the same experience will conceptualize it similarly or differently depending on the schemas they have in place. Rather than a litmus test for the veracity of the event, an analysis of shared experiences better serves to locate the cultural schemas witnesses rely upon as well as to uncover the narrative streamlining of their memories” (p. 290).

Apart from the group’s anomalous perceptions in the field, significant dreams during the night, and images recovered under hypnosis, the decisive element in the construction of the story of the alien encounter was the social interaction of the members in work sessions, in which the messages of Acael were channeled through the Ouija board and later interpreted, debated, and agreed upon.

All these stories are loaded with religious content expressed in science-fiction imagery. From a cognitive point of view, the creation of these concepts involves, to use Boyer's (2001) terms, a series of *systems of inferences*, or mental structures, that process and organize the scattered pieces of information to compose what we call knowledge, and these thought processes are carried out through the filter of culture, so that experiences are given a culturally adapted interpretation. In the story of Grupo Aztlán's physical contact, there is no doubt that the images of the ship's interior—with its light-emitting walls, the crew members busy at their panels, the quasi-angelic guides, the white-robed elders—are all science-fiction stereotypes that the group assimilated from Sixto Paz's account of his alien encounters, but which are typical plots and iconographies in the world of alien contact in general.

Recalling the Experience through Hypnosis

Numerous authors have already demonstrated that hypnosis is a socio-cognitive mechanism capable of creating fantasies shaped by a cultural framework, socially generated expectations, and previous beliefs, especially when the hypnotist is a person exposed to the ufological milieu. Robert Baker (1996) pointed out that one of the effects of hypnosis is *confabulation*, the tendency to confuse reality with fiction and to fill in memory gaps with imaginary details. Baker summarizes this tendency like this: "Hypnosis is mostly and primarily a turning on of the imagination and a royal road to illusion, delusion, and fantasy land" (p. 177). As Newman and Baumeister (1996) have indicated, "hypnosis has been shown to be a potent source of spurious memories that can be influenced by the expectations, beliefs, and motivations of both the hypnotist and the subject." The testimony of Grupo Aztlán members elicited through hypnosis follows a predictable pattern set by ufology, science-fiction, and contactee narratives.

As Clark and Loftus (1996) have remarked, "in the case of space alien memories and other hypnotically induced retrieval, the mental product often involves strong visual imagery. These visual images might persist over time." The visual imagery of the contact itself, from the quasi-angelic masters to the saucer paraphernalia that serves as a stage (the flying disc, the absorbing solid light-beam, the circular room in which the walls glow, the control panels), all emerge in the hypnosis sessions. Duncan Day (1998) highlights that "hypnosis does not contribute new or unique information toward a greater understanding of this phenomenon. It does produce a reliable amount of error and confabulation" (p. 170). Also, Susan Clancy (2005) has exposed that "under hypnosis, people who wonder if they were abducted are lulled into a suggestible state and asked to imagine what *might have* happened" (p. 71). The same applies to the specific case of the UFO contact of Grupo Aztlán. Any memory that emerges through the recalling process is also likely to be taken as evidence of their alien contact. Let's just pinpoint that, during the hypnotic regressions of Grupo Aztlán members, certain questions guided by stereotypes about UFOs and abductions could have led to answers in accordance with their expectations and what is to be understood as a typical UFO encounter. The incontrovertible fact is that hypnosis may have shaped vivid fantasies that have been interpreted as memories of a real event.

Searching for Meaning in Anomalous Experiences

Just as an abundant scientific literature has arisen in the last three decades on the psychological and cognitive aspects of UFO abductions, the contactee phenomenon has hardly been studied. Some authors have taken into account the similarities in the discourses of abductees and contactees. What differentiates an abduction from a messianic type of contact like that of Grupo

Aztlán's in the process of retrieving supposed memories during hypnosis, is that the former produces terrifying images while the latter produces expressions of communion with entities clothed in an aura of the sacred. Nevertheless, there is a salient trait of abductees that approaches Grupo Aztlán's experience, and it is, according to Susan Clancy (2005), their desire to find meaning to their lives. Not only does the abduction experience explain disturbing emotions; it also serves to facilitate a coherent narrative for their lives. One sign that abductions and alien contact are similar problems has been given by Clancy when she asserts that all the subjects of an abduction that she investigated felt "changed" because of their experience. Astonishingly, after what one could consider an ordeal, they felt improved and better people.

In a study of abductees and people who reported past lives, McNally (2012) found that, although the abductees' experiences were terrifying, they later put them into perspective, and "they said their encounters with aliens had deepened their spiritual awareness of the universe, making them glad that there were powerful beings out there that cared for us and for the fate of the earth." In addition, McNally discovered among people who claimed to have lived past lives (like Aztlán members experienced aboard the ship), that "past lifers likewise suggest a quasi-spiritual motivation." Some abduction experiences have come to be loaded with religious content similar to that of typical contactee phenomena. In this sense I find it surprising that social and behavioral scientists have not gone into more study of the cognitive aspects of contactee accounts of physical encounters with space masters, especially when they are, as in the case I am describing, group experiences.

Collective Construction of the Contact Experience

We know that the memory of past events is a reconstruction in which the idiosyncrasy of the subject, the expectations, and socio-cultural factors are ingrained. But the case we are studying is more challenging to understand, as it is a group experience, that is, the composition of a memory reached collectively through a process of voluntary recall of significant contents. We do not have immediate testimonies of the experience on the mountain, neither recorded nor written, that describe the perception of each participant at the time. What we do have is a shared narrative, which coincides as a final consensual elaboration of a series of independent memories—or fantasies. Individual experiences were amalgamated in group interaction to compose a common narrative with a transcendent meaning. It was, therefore, a process of social construction of the experience.

The group sought to explain and give meaning to the event by attributing an external (extraterrestrial) authorship and an intention (a mission to accomplish), which we can understand as a mechanism of "attribution of causality." This is also the case with the "knowledge" that makes up the doctrine elaborated by Grupo Aztlán over the years, which came only in part from the masters' messages, as the whole narrative was elaborated in group work sessions. Moreover, the origin of that knowledge is to be found in numerous works from the history of Western esotericism, which have been disseminated by the media and shared in the ufology field. However, the group attributed the "information" to the aliens. In the same way, the group attributed an external causality even to the group's strategic decisions that gave meaning to their lives, brought coherence to their quest, and affirmed them in the relevance of their mission.

But the physical encounter that midnight on January 25 was not an isolated event at one moment in time. It was in fact the result of a long process by which the collective consciousness of an “extraterrestrial encounter” was generated. This process had several stages. It began with the previous appointment with the guide Acael for the physical manifestation of the spaceships, which led several members of the group to travel to Tenerife with the expectation of contact. On the mountain, at the appointed time, they had strange sensations and visions that they could not interpret. Later they realized that in their memory of that night there was “missing time,” in ufological language, a few minutes that they could not account for. In the following nights, each of them had strange dreams, which they shared with each other in work sessions. In this way the experience on the mountain took on meaning for all of them. An expectation was generated about what they might have experienced unconsciously during the time they could not remember. They knew from their ufology readings that there are a series of signs of having suffered an abduction, among them the sensation of “missing time” and strange dreams. In contact with Acael by Ouija board, he confirmed that they had been inside a spaceship. Then they tried to unveil what had happened. For two months they carried out hypnosis sessions led by one of the members and other experts related to ufology, during which they extracted memories of those missing minutes. Words and images emerged, which they interpreted as hidden memories of their presence inside a ship from another world.

In the group work sessions, collectively interpreting the guide’s messages and “hidden memories,” the physical encounter took on “existence.” The result of this memory-making process faithfully followed the model of contact that the group had assimilated from so many accounts of contactees, especially Sixto Paz, but also the script that they themselves had worked on through successive field experiences in an “energy or astral level.” Finally, the group sanctioned the reality of contact into a coherent narrative of extraterrestrial contact.

In addition to the process of collectively crafting the memory and agreeing on a narrative, we find in it a series of conventions about an encounter with otherworldly beings that are widely shared among UFO fans. This narrative is faithful to a theoretical and symbolic tradition, which conforms to a series of standardized motifs in the New Age and UFO contact alternative cultures. The depiction of the encounter inside a spacecraft is laden with religious symbolism, even if it is presented in the trappings of technology and popular culture. Being absorbed in a tube of light is reminiscent of traditional religious themes as much as of abduction stories or science-fiction films. The interior of the ship flooded with light streaming from the walls is a cliché theme of ufology, suggesting a magical place, a representation of the power of science with religious and folklore overtones. The imagery of the cosmic masters as quasi-angelic figures, manifestations of messianic beings or divine messengers, is reminiscent of icons of consumer culture such as the alien Klaatu, from the film *The Day the Earth Stood Still*.

The members of Grupo Aztlán gave coherence to ambiguous perceptions and sensations in the mountain according to a cognitive-symbolic complex that is significant from the belief in alien contact. The ontology of the event is culturally determined: the encounter inside the spacecraft is a prefabricated and shared model in the UFO subculture as an expression of the numinous, of the sacred, announcing a promise of salvation.

Conclusion

The physical encounter with the Grupo Aztlán masters aboard a spacecraft was the conscious elaboration of a consensual “memory,” which was composed from a series of elements: a long-awaited expectation, sensations experienced on the mountain, “memories recovered” through hypnosis, and a narrative socially generated in the group work. Expectations, visual stimuli, and imagination were made to merge perfectly into a meaningful whole: a physical experience in which a mystical communication took place with superior beings. The alien guides and elders transmitted to Grupo Aztlán a mission that gave meaning to their own life experience and metaphysical quest.

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Alien Big Cats and UFO Testimonies: Similarities and Questions

Frédéric Dumerchat

They all agreed that it was a huge creature, luminous, ghostly and spectral. I have cross-examined these men, one of them a hard-headed countryman, one a farrier, and one a moorland farmer, who all tell the same story of this dreadful apparition, exactly corresponding to the hell-hound of the legend.

Arthur Conan Doyle¹

Abstract: I describe a long inquiry about an elusive puma in France. All the testimonies, ideas, words, and sources have been treated with a complete neutrality. I observe that apparitions of Alien Big Cats always obey the same scenario. I remind the reader of cryptozoology's basis and I compare cryptozoology with ufology. The problem of testimonies is fundamental for these two research areas. I evoke the links between parasciences and sciences and address the fact that we live in a new world where testimonies about ABCs, UFOs, or parapsychological phenomena can find a place. If ABCs haunt the countryside, wild and exotic animals invade or are introduced in the cities and the natural environment. More and more technological artefacts travel the sky and space. Like in the novels of Philip K. Dick, in our world, fiction belongs to reality.

Keywords: Animal, Alien Big Cat, Controversy, Cryptozoology, Cryptid, Legend, Parascience, Parapsychology, Rumor, Testimony, Ufology, Witness

The Snow Leopard in the Himalayas, the Hippopotamus in Colombia, the Boars in Hong Kong, and the Puma in the North of France

Writer Sylvain Tesson accompanied wildlife photographers Vincent Munier and Marie Amiguet when they made a documentary about the snow leopard (*Panthera uncia*). In the Himalayas, in Tibet at an altitude of about 4,000 meters in very difficult conditions, the main objective of their trek was to observe, photograph, and film a snow leopard. It's a vulnerable species--only around 4,000 are left, and it's very difficult to approach them.

They were successful, giving rise to a book (Tesson, 2021) and a documentary (Amiguet and Munier, 2021). Tesson talked about it as "an apparition" when he located it. "We knew that it prowled. Sometimes, I thought it was just a rock or just a cloud." (Tesson, p. 126). In Iraqi Kurdistan, another kind of leopard is also threatened (*Panthera pardus saxicolor*) and is defended with great difficulty by Hana Ridha (Suleiman, 2021) like many other animals of the planet. Some leopards can become ghost animals in the future.

In Colombia, famous drug trafficker Pablo Escobar kept in his huge Hacienda Nápoles a lot of exotic species, including hippopotami (*Hippopotamus amphibius*) from Africa, one male and three females. After his death, these animals were freed. In 2019, 69 hippopotami were counted; they were perfectly adapted to their new environment, but this created many problems. So the Colombian government decided to sterilize them (Herzeberg, 2021). In Hong Kong, in 2022, like in other metropolises or towns, wild boar created increased problems, where they walk around

¹ *The Hound of the Baskervilles*, London, Penguin Books, 1988, p. 27.

even in broad daylight. In this case, some of the people reacted against the authorities who wanted to kill the boars (de Changy, 2022).

Between October and December 2021, a wild feline was observed in northern France (*département* of Pas-de-Calais). Several witnesses watched the animal, which was identified as a puma (*Puma concolor*). The media, particularly the regional newspapers, followed the story. The *préfet* (representing the state in the *département*) and the *gendarmerie* (police of rural areas and cities) took the information seriously. An important police presence was developed to find it: *gendarmes*, a vet, a helicopter, and volunteers with animal protection associations. They wanted to catch it, or kill it if it was dangerous. An internet petition (with 60,000 signatures) asked that the animal had to be caught alive. The scenario is well known and we will find it again. The puma disappeared and nobody talked about it anymore (see internet: *Puma dans le Nord*).

This puma may be one of the Alien Big Cats (ABCs) or phantom felines, in France called *félins-mystère*. But they are closely related to three other examples: leopard, hippopotamus, and boar. These are known animals which are sometimes very difficult to see, and exotic beasts which became established in biotopes far away from their native countries, stir up controversy with the acceleration of globalization. Furthermore, the animals often stir up debate because of the important change of mentality towards them connected with the great scientific progress about their cognitive and emotional abilities. The current problem for many people, in rich countries, is only to protect and save the animals. In the media there are often reports about abolishing hunting and giving up eating meat.

The larger species has been known for longer, but the dwarf hippopotamus (*Hexaprotolas liberiensis*) has been documented by Europeans only since 1848-1849. Its nocturnal habits and its life in the forest, in western Africa, kept it out of recognition. In Madagascar, two kinds of dwarf hippopotamus disappeared around the 10th century, very probably as a result of human activity. It has been reported as living but no evidence was found until the 20th century. Cryptozoologists and others are especially interested in these animals that could have existed and they used reports from people who had seen them. This is similar to ufologists, who study UFOs and their witnesses, as well as to parapsychologists. The works of these three parasciences, as they are usually called, are excluded from the official sciences. Generally, these sciences have a tendency to refute or neglect the reports from these fields of research or to criticize them for voicing theories that have to do with the subjects of these three parasciences.

The Elusive Puma in the Forest of Chizé, an Investigation (1995-2004)

Between 1996 and 2004, Philippe Vénier and I followed the tracks of an animal identified as a puma (Dumerchat and Vénier, 2005). All the quotations below are from the book, and it's possible to hear the tape recording (CERDO). It appeared suddenly in our region, therefore exciting our interest. We made a long ethnographical study by meeting a lot of people, men (mostly) and women of all ages and different social categories. We took notes, recorded, and took photographs when we could. There were those who saw the puma, others who didn't believe in its existence, local journalists, *gendarmes*, and other official personnel, specially ONF workers (National Forest Office) and ONC workers (Hunting Forest Office, now Biodiversity Office) who played an important role in the hunt for the presumed feline. It happened that some of the professionals could not or would not be interviewed.

Our investigation expanded to encompass what women and men, living far away from the forest, could tell us. We read everything about the feline and we watched the rare television pictures about it (this was before the internet), in particular in the local media, two daily newspapers, which followed and maintained the adventures of the puma. The regional newspapers and now the internet have played an important role in the spreading of these stories. We were allowed to consult administration documents about the beast, notably the *gendarmerie* file, the reports from the veterinary services, and the report from an American hunter.

Our approach was to immediately establish a symmetry between all those who were involved in this event while observing a strict neutrality in their reports, such as in the controversy that arose immediately with the mentioned hypothesis about the puma.

The puma was supposed to have haunted for two years the state-owned forest of Chizé, in an area of 2,500 hectares, and also 3,500 hectares close to the forest of Aulnay, bordering on the *département* of Charente-Maritime. There is a zoo with animals of European fauna now called Zoodyssée (formerly Zoorama) and a center for animal biological studies funded by CNRS (National Center for Scientific Research). At that time, at this center, there was an international seminar on biodiversity and the species' survival. The announcement of the puma's presence made everyone laugh, according to a witness among the participants. Between 1952 and 1967, the forest was occupied by an American camp, a munitions depot. Some buildings of the camp had been reused by the zoo and the center. We are thus not in a natural place, but in an area that is controlled by state agents. The forest and its surroundings are very sparsely populated. Agriculture is still an important economic activity in an open field landscape around the forest. It has always been a place to go for a walk or visit the zoo.

It all began on October 18, 1995, when a group of hunters observed a strange animal. André Abellard, one of the hunters, told us: "It's not a calf, it seems to be a lioness... because it had no mane like a male... There were four or five of us. We took the binoculars and we all saw it!" The ONF was quickly informed. Bruno de la Chapelle, the person in charge, noted footprints, identified as the tracks of a puma after the plaster cast of the tracks was analyzed by a researcher with the Paris Natural History Museum. At this point there was general mobilization; *Prefecture* in Niort (administrative center of the *département*), *gendarmes*, ONC, and ONF were ready to look for it. The forest was surrounded and driving was forbidden to everyone except for the officials.

The authorities, starting with the *prefecture*, believed in the existence of a puma in the forest. The affair was immediately covered by the regional and national media (above all regional *Nouvelle République du Centre-Ouest* and *Courrier de l'Ouest*), but only the regional news and a regional television channel (*FR 3*) spoke about it over time. A lot of methods were used: patrols, night and day observations, helicopter, watchtowers, and lures, including a female puma as it had been decided that the puma in the forest was male. In 1997, they brought in Rowdy MacBride, a hunter from the USA who was specialized in this kind of capture. He came with his pack of dogs. He didn't find the beast and expressed in his final report how he was skeptical about its existence. The evanescent puma had cost the French state a lot of money.

The closing of the forest was the main problem because of the cost and the loss of tranquility. Most of the inhabitants were against it, even if a lot of them didn't call the presence of the puma into question but denied its dangerousness. Animal Rights organizations (e.g., Brigitte Bardot's) intervened and asked that it not be killed. Unless it was attacking people, the official orders were to neutralize it with rifles equipped with hypodermic darts. Ségolène Royal, an important politician at this time, deputy of the district, who had been Minister of the Environment, played a decisive role in the argument for the reopening of the forest, and she was not alone. Thanks to her intervention at the National Assembly, the forest re-opened in 1997. This became national news.

Testimonies

Does it exist? Is it an escaped animal? These are the two fundamental questions that came up from the beginning. There were several testimonies of sightings; we collected some of them and some were published by the press or have been noted by the *gendarmes*. Here are some short examples of testimonies:

Roland Dodin, retired, who was cutting wood and sat on his tractor: "... it was in winter (January or February 1999, around 9:00-9:30 pm)... it cut in front of me... it came out of a wood... it went two hundred meters, just one color, the same color, dark brown... rather big, as big as a table, bigger than a dog, than a German shepherd... I saw it very close, it surprised me, 15 meters... completely surprised, I knew that it existed... it disappeared and ran away always at the same pace..." It walked 200 meters, passing from one wood to another. Mr. Dodin put twigs on the tracks, he wanted to call the *ONF* but he didn't. He thought it was not dangerous, it broke free and finally it went into the forest. His wife told us that he was moved by this presence. He didn't talk about it, because he was afraid that the media would pass him off as a weird man.

Marie-Gabrielle Dubreuil drove on a road through the forest going to her work, a route that she had taken for thirty years. She stopped, watched it for three minutes when it was 10 or 15 meters away. It was in 1998 or 1999 and in February. She just thought that it was a roe deer, she saw them often, and also boars. She was very interested by animals. "This animal stops... it turns and looks at me... Ah this is the puma!... I found it marvelous, I was astounded in front of it... it was 'fire color,' rather tall (one meter)..." She stood and looked at it until it went away. She went back home and told her husband, who then faxed B. de La Chapelle. She was at the same time both admiring and afraid. As the puma was not afraid, she thought that it was domesticated.

Theo Baron is one of the seven hunters who gave the alarm. One of them saw the beast in November 1995. At first he thought it might be a fox, then a calf, but the binoculars showed neither was the case. It would be a lioness or a young lion because it had no mane. The hunters watched it for five minutes walking: "... about 200 meters away, we could see it nearer thanks to the binoculars and we saw very clearly a feline. We didn't think of a puma at the beginning... The puma really existed in the forest of Chizé. I am sure. I saw it with my own eyes." It had been talked about as a puma after an experts' report of the tracks of the animal's feet. B. de La Chapelle, local manager of the *ONF*, saw it seven times. This affair kept him busy every day for two years. The first sighting took place when he went back to his house in the forest: "... taking a bend, it was here... what did I do? I looked at it like everybody did. It would have been better to crush it, then it would have been over, the case closed... it was on the road, it crossed the road

slowly... and the last time I saw it, it's not a secret, I saw it for more than one minute in my telescopic rifle (a trainee was there). In the night, yes, with a spotlight. In 1996, it was, I thought... a very, very big German shepherd, an animal between 60/70 kilos, I saw it about 100 meters away but in the telescope of a rifle, you see very well... I have seen it lying, quick, dazzled by the headlights. I didn't shoot, well after it turned its head and it went away." He thought it was a tame feline, which had been set free.

After attending a meeting about the puma, the representative of the Nature Association of the *département* (who had a good knowledge of animals) also saw by night an animal as big as a wolfhound crossing in front of her headlights. Its figure was slender, it moved its long cylindrical tail nervously. She thought it was possibly the puma (*A la découverte des mammifères des Deux-Sèvres*, 2017, p. 92).

The manager of the *Zoorama*, Daniel Guérineau, was convinced of its existence and didn't doubt that his daughter met the feline. He was also convinced, such as other people, for example B. de la Chapelle, that the animal was in the forest before the hunters reported it. He got a report but the person didn't want to talk through fear that he would be taken for a "weirdo." The manager of the Biological Studies Center, at that time, he was favorable to the idea of a puma in the forest. The *gendarmerie* had a file where the observations, including those from the newspapers, were noted down very briefly. It had 22 witnesses. But of course, the *gendarmes* had no opinion about the matter. And let us remember again, the authorities believed in its existence; under the direction of the prefect, they just had to confirm the reality of the feline with all the show and the measures they put in place for two years. It's the principle of caution towards the human inhabitants, which made them decide to close the forest and search.

Hypotheses

The prevailing hypothesis was that the puma belonged to an unidentified person who had set it free in the forest and then later recovered it. This mysterious owner has never been identified. A couple had been suspected and the *gendarmes* visited them. We met them. Yes, they received felines abandoned by their owners or young felines belonging to circuses, and the couple declared them officially. They had a tiger when we visited them, fortunately in a cage. The beast impressed us. They never got a cougar and the one in the forest... they didn't believe in it. As they lived near the forest, they were not surprised to be suspects.

At the beginning the authorities investigated whether it had escaped from a zoo or a circus but without any result. Some people thought that it was abandoned knowingly near the *Zoorama* or that the feline escaped from this place. But the zoo never had a puma. Later they acquired a cougar from another zoo to show what it really looked like. But a lynx in 1992, and a she-wolf in 1999, had escaped from there. The first one had been recaptured and the second one had been killed. Zika stags also appeared in the forest, without anyone knowing where they came from. One of them took refuge in the *Zoorama*. Other people thought to explain that it was not captured, that it just went somewhere else, to another forest, or it had been killed and nobody reported it. They were all just looking for answers to the fact that nobody had found the puma.

Several older people remembered that a puma, named Bill, really escaped from a circus in summer, in the high tourist season, on the island Ré (Charente-Maritime) in 1956. The puma's

adventure had been intensely covered by the media, even by the international media, at that time. It was in the end lassoed in a pine forest.

The other hypothesis was that there never was a puma. Some people talked about confusion with foxes, dogs, deer, or roe deer. And others thought that it was a joke made up by the hunters who reported it first, or by those who searched for the beast. I must say folklorists are always interested in this type of hunters' stories. A story had been told us with humor where there was a hunter in a beast pelt, playing the puma. We noted that the farther away from the forest we moved, the less people believed in its existence and the more jokes they made about the puma. One of the local newspapers, where the articles had often been skeptical about its existence, started a competition to find it a name; Pacha was adopted. Some of the agents of the *ONF* did not believe in its existence either, despite B. de la Chapelle. All the evidence—tracks, scratches, attacked animals—has been disputed. The report of the American hunter (which we read) shows that he didn't think that there was a puma.

Were there rumors? Yes, at the same time as the affair. But I have been careful with the word "rumor," which is defined as unchecked information. In general, people are only informed of the hypotheses about just the presence and the disappearance of the animal. We have already quoted that of a hypothetical owner of the beast who let it free and then reclaimed it. A few people said that the feline looked especially strange. Far away from the forest, some reports were in the news about other sightings of cats, a black panther for example, but immediately they were not considered as serious. We never heard anything about the wolves. The Deux-Sèvres and surrounding *départements* were the last in France to lose their population of wolves, in the 1930s.

Statements about the absence of the capture of the supposed big cat or of strong proofs of its existence gradually disappeared from newspapers and conversations, from 1998 onwards. Its memory continues as we are reminded very episodically by the media or by reading our book. But the puma has not become a legendary beast... unless we decide to make it so.

Other Stories

Other stories through our investigation and beyond. During this inquiry we had also decided to talk about animals with the people we had interviewed. Some of them talked about other felines which had been seen in the *département* or in the region. We realized, these were often very short stories which just circulated orally or which had a small article in the news. This type of story continues to this day.

And then in 1999, we found another case, reported by the press with two witnesses, Mr. Le Guerzigou and son living in Morthemer (Vienne). So, we visited them. They had possibly seen a cougar. "It sat on its hindquarters. It licked itself. It didn't seem very wild. It looked like a feline, it walked like a cat... It might be a lioness." They decided that it was a puma when they saw a photo shown by the *gendarmes* who came to them. With a neighbor they gazed at the animal through binoculars, for about an hour and a half. It was 150-200 meters away at the edge of a forest where there are large deer. Other people would have also seen it. The son was a hunter, and was sure he wouldn't be confused by a dog or a fox, as other people might. That was the end of the story.

Hypotheses of deliberately released animals in the country circulated in France and around our area, above all in the 1980s and 1990s. There was some talk of snakes, generally vipers, being dropped often by helicopters. Laboratories, nature reserves, the government through the ministry of the environment, or environmentalists have been accused. Some people knew somebody who had seen the helicopter and the cages, or more rarely they were witnesses. There were also some stories of released foxes or boars that came by trucks. But we heard about the deliberate release of many other animals: buzzards, voles, caterpillars, ladybugs. These narratives were in the media. The one about the planes “which broke the clouds.” I worked on it locally (Dumerchat, 1997). A story spread among the farming population that the tree-growers or tourist places chartered planes to stop it from raining, by dispersing the clouds with silver iodide. In this case, it was possible to find witnesses who saw planes, or people who knew somebody who had seen them. There was no clear evidence of this but this method is used in China, for example. This old technology is always questioned.

Recently, in 2020-2021, there was talk about animal mutilations, which ufologists know about very well. This happened to horses in France, and in our region. There were neither witnesses of these cases nor arrests. The French *gendarmerie* investigated and concluded that 15% of them had no obvious explanation and could be the work of humans. Neither UFOs nor helicopters have been mentioned in the suppositions, but the media talked about satanic rituals, initiations into gangs, or removal of organs. A short investigation allowed me to see that local people believed in an unnatural origin and that horrible crazy men were responsible.

At the same time in Deux-Sèvres, three wolves escaped from a private owner, who legally took care of abandoned wolves accused of having killed sheep. Two of them had been shot and the other one came back to the refuge and died. As ever now, this led to a heated debate in the media. There was a petition on the internet asking for the wolves to be captured alive rather than killed. This was opposed by the local farmers and authorities. Solitary wolves have been seen in the region for a few years. A chamois (*Rupicapra rupicapra*) had been recently photographed by surprised hunters: Where did it come from? From the Massif Central? Where was it going? For a long time, wallabies, were seen, sometimes photographed and even captured, but often nobody knew where they came from and what became of them.

Elizabeth Rémy, in her thesis (1992), closely studied the stories about released vipers, which have been a topical question in France, in the south of the Loire, especially in the 1970s and 1980s. Jean-Louis Brodu, in a master’s dissertation (1992) and an article (1995), studied the narratives about “planes being used to stop the rainfall” which had been told mainly in the 1970s and 1980s in the south of the Loire.

More generally, there has long been talk about reintroducing animals such as the lynx in the East of France (but there were also lynx from neighboring countries) and the bear from Slovenia in the Pyrenees. This always causes controversy. The official return of the wolf to the Alps took place in 1992. This arrival of *Canis lupus* could be understood by people as a voluntary reintroduction from the French State. We know that it’s not true and that the wild canine came from Italy. But definitely the government has now taken responsibility for their control in the French territory. The presence of these animals has been immediately controversial, especially

with cattle farmers and by a part of the rural world. It's not the case for the urban population. It contrasts two camps which cannot be reconciled now because a big part of the French people, especially urban people, agrees completely with the fact that they are living in France. Let us add as well that hunting and fishing in France are supposed to control animal introductions each year.

Always the Same Scenario

The people who know the British ABCs must have recognized in the adventure of this French puma, a very well-known scenario with the same elements. At the beginning, a feline was pointed out in a place where that was unnatural, more often a puma or a black panther, some people maintained to have seen it. Next, it has looked like an escaped animal but it has not been found, or very seldom. Sometimes a name was given to the beast. There were tracks found. Sometimes some domestic animals were killed, attributed to the wild animal. Authorities intervened to catch it, the media talked about it and then nothing more happened. They talked about confusion with these animals, pets generally such as cats and dogs. The materials were controversial and a collective psychosis was evoked. The authorities closed the file. Some people believed that they hid facts: it was a feline, they knew where it came from, it has been killed without publicity, and so on. The controversy, the debates which generally took place were in the middle of this kind of events. The same thing happens with reported UFO testimonies and parapsychological phenomenon. Their reality is always in doubt. Are they real or unreal, right or wrong?

Our potential felines are in relation with the strong heated debates about the wild beasts, but also with the domestical animals, and with the hunting. In the 1960s, the Puma in Surrey began the ABCs saga. After that, other beasts in Great Britain have been reported regularly. At that time cryptozoologists and Fortean (who are often the same) were quickly in on this topic. ABCs had been listed in Ireland, Germany, in the Czech Republic, Italy, France, Spain, Luxemburg, Denmark, Netherlands, Finland, and also in Australia, New Zealand, USA, and in other countries where their furtive presence has sometimes been recorded but much less publicized, for example in India or China.

In the 1980s in France, the felines took the place of supposed wolves or unknown beasts. It continued. They came after stories of wolves, sometimes genuinely escaped, in the 1970s. The wolves were normally not present because they had died out in the 1930s. The last important French report was at the end of the 1970s in the *département* of Vosges. Farm animals were killed, the beast was compared with a wolf, it was said that it had been set free by its owner. Escaping all the traps and being probably never identified, it disappeared without any real answer (Picard, 1979). In France, it was the last important beast pointed out as a wolf. The feline stories came later. But the wolves are coming again from Italy where they used to live in the Apennines, going through the Alps at the beginning of the 1990s, which showed that nothing was obligatory definitive with the animals.

Rumor, Legend

The US researcher Jan H. Brunvand who played an important role in developing the concept of urban or contemporary legend, classified the ABCs in this category. (Brunvand, 2002: 34-35). For him there were black panthers, we knew that there were other felines, prowling in towns or in their outskirts in USA and in other places in the world. They coincided, for him, at the heart of

the urban life, especially in New York with the stories of “alligators in the sewers” (2002, pp. 8-9), these were the only ones involving animals having proximity with ABCs. These alligators would have been bought, when they were babies, by people who, afraid to see them grow, would have thrown them away in the toilets. The alligators would have settled in the sewers. Really there were alligators captured in New York in the 1930s, it was later Thomas Pynchon’s first novel *V* (1963) which contributed a lot to belief in their presence in the sewers of which we never had neither witness nor proof. That is one example, there are many more, of the interaction between fiction and what we call “rumor” or “urban legend.” The story became widespread elsewhere in the world. If we keep the word “legend,” it’s just better to speak about “urban legend.” ABCs have been seen mainly in the countryside in what remains of nature or in the outskirts of cities. So, they are rural legends. UFOs had a tendency to appear in the same places.

It is in the categories “rumor” and “legend” that the adventures of a mysterious feline have been studied by Michel Meurger and Jean-Louis Brodu who wrote the first study on this topic in France (Brodu, Meurger, 1984). They were interested in the Beast of Noth (a village in Creuse) in 1982, which was supposed to be a lioness. Its story had all the criteria of ABCs that I have noted before. We can consider that this case shows something new that continues: for that beast in France all reported sightings were of felines and not wolves. Jacqueline Simpson, a great specialist in English folklore, had classified them in the legendary category in her dictionary (Simpson, 2000). With precautions, as Michael Goss had done, classifying them between rumors and legends (Goss, 1992). Meurger already demonstrated that there had been talk about felines, particularly about “anthropophagic” wolves as the well-known Beast of Gevaudan (1764-1767). That has been identified at that time as a hyena or another exotic animal (Meurger, 1990). Royal and aristocratic menageries owned felines. Common people thought about a werewolf. Through its huge media coverage at this time, the story of the Beast of Gevaudan went round the world and reached North America. This was the turning point in these Beasts stories. Intervention by authorities at the highest level, up to King Louis XV, has played an important role. There were other Beasts in France.

This story of the Beast of Gevaudan continues to live on until to this day, particularly through fiction about conspiracies which could have been understood as truth. The area was developed for tourism on the strength of this story. For the protectors of the wildlife, it was not possible that the Beast was a wolf. In fact, there were several wolves. Some cryptozoologists had also their own opinion to identify the animal which would not have belonged to the species *Canis lupus*. But there were a lot of witnesses and unfortunately victims, around two hundred people who had been attacked, with half being killed (Moriceau, 2021).

Meurger studied lake monsters, such as the one of Loch Ness, and on the way the dragon stories developed from the 16th century when some scholars created an image of a real animal (1988, 1997, 2001). Véronique Campion-Vincent (1992) and Jean-Bruno Renard (1999: 106-108) worked a lot on rumors and urban legends in France. They classified ABCs as “contemporary legends.”

These approaches are interesting and useful but they can mask and cause us to forget the testimonies of witnesses immediately neglected by explanations and approaches which can be

controversial. If we want to progress in the study, whether for testimonies about ABCs, UFOs and other close subjects, we cannot ignore witness accounts.

Cryptozoology, Ufology, Testimonies and Theories

Cryptozoology is the science of “hidden animals,” the cryptids. Bernard Heuvelmans (1916-2001) (Barloy, 2007), doctor in zoology, was at the birth of this field of research with the publication of *Sur la piste des bêtes ignorées* (1955). Nevertheless, cryptozoology is still considered like ufology and parapsychology as a parascience. The aim of the cryptozoologists was to flush out animals that were thought to have died out or to identify other ones whose zoological reality is denied or under discussion. Like ufology and parapsychology, cryptozoology is considered to be pursued by amateurs, especially active on the internet, taking place on reviews, blogs and websites. But it’s difficult for them to go on over time. Some disciplines considered as scientific disappeared after a certain period.

It’s just partially true because we must say that some scientists have always been involved in the studies, the same for ufology and parapsychology. And some amateurs can be very competent. Cryptozoologists have not just a passion for the yeti or the monster of Loch Ness. The French cryptozoologist Michel Raynal has dismissed a supposed South American monkey (the “ameranthropid”) as a hoax. He proved that an Asian tapir has been described, a century before science classified it (Raynal, 2016, 2018-2019). Reading, for example, *Animals and Men*, the Fortean cryptozoological magazine or bulletins of the International Society of Cryptozoology, showed us that cryptozoologists are interested in a lot of animals which at first showed nothing extraordinary. They re-open files about supposed or possible cases, they are interested in hoaxes and in the place of the animals in local cultures. I think, this is what scientists do.

To write articles and books, Heuvelmans worked continuously, made many investigations, accumulated a huge bibliography and kept up a correspondence with a lot of people around the world. He was interested in mysterious felines in particular in Africa (2007). He was careful, not to voice just certainties but often simple possibilities. Some scientists took an interest in cryptozoology, like Karl Shuker who is a star in the cryptozoology world. He is the author of numerous papers and books, one of which is about our topic (Shuker, 2020). The French scientists Benoit Grison (2016) and Eric Buffetaut (2020) are also authors of important books about cryptozoology. We can use research guides like Georges M. Eberhart’s encyclopedia (2013) or Loren Coleman’s and Jerome Clark’s books (Coleman, 1985, Coleman and Clark, 1999). They all wrote about ABCs. Coleman had pointed out, for a long time, the felines, the kangaroos and the alligators in the urban world (1985: 61-67). A lot of other guides, dictionaries, and encyclopedias followed.

Each year, many animals and plants are discovered, for example we don’t yet know all the trees. Most animals are very small. They can be very old, like the famous coelacanth, identified in 1938, or mammals which have nothing reported in the 20th century, even though they were known by natives such as the animals about which we are talking. We can’t forget the discoveries of the okapi (*Okapia johnstoni*) in Congo in 1901, the peccary (*Catagenus neagnere*) in Chaco (Argentina, Bolivia, Paraguay) in 1975 (the specialists knew it only in the fossil state), the saola (*Pseudoryx nghetinhensis*) in Vietnam, a bovine looking like an antelope in 1993, or the small black tapir (*Tapirus kabomani*) in the Amazon forest in 2013. In 2019, the discovery of

a supposed new wild cat in Corsica amused inhabitants as it was already locally known under the name fox-cat, and was now identified scientifically. It's difficult to know if other populations of small, very discreet and savage felines always survive. An example: the wild cat (*Primalitrius bengalensis iriomotensis*) from the Iriomote Island in Japan is extremely difficult to observe. In the local culture it was, and perhaps today, a "fantastic" creature.

Without any doubt, Heuvelmans would have been filled with enthusiasm by the discovery of other human beings with whom we share genes, who lived at the same time as our direct ancestors. Notably the little man of Flores (*Homo floresianensis*). Heuvelmans defended the idea of the long survival of comparable small humans at the same time of *Homo sapiens*. The reality of an animal doesn't obey the same criteria according to periods and societies. Dragons in Europe could have been considered as totally plausible beasts by scholars in the past. In European popular cultures and in those of other continents, for a long time and sometimes still now, an animal was and is not only a proven and studied physical existence.

For example, Pierre Lagrange (2017) showed it with relevance, comparing two sightings of the dugong in Papua New Guinea: well-identified by the natives. It was for them what we would call a mermaid, when it was just a sirenian for a zoological field study. Another example is the Zanzibar leopard moving between zoology and "supernatural" (Walsh and Goldman, 2020). The wolf in Europe as an emblematic beast has accumulated during centuries a gigantic number of words and documents, some of which were extraordinary stories and legends, we can imagine, they could let our descendants believe it was an imaginary animal. Lagrange (2015) asks us rightly to think when and how our naturalist knowledge has been made up by comparing with the learnings of folklores, past and present, and by rejecting them.

It is certain that these named species are all considered as vulnerable. Other have disappeared recently, but it's still possible to study them, such as the big penguin and Steller's rhytina (a marine mammal) exterminated in the 19th century, or the dodo from Mauritius which vanished in the 17th, and the thylacine (Tasmanian tiger) in Australia. The last one died in a zoo in 1936. But some people claim to have met thylacines recently, and other people believe the dodo lived longer than we think. The Kraken, we could imagine as legendary or simply as a fiction subject, has been compared with a real giant calamar from the 19th century. It was a gigantic cephalopod.

In 1981, Heuvelmans met ufologists to compare the two areas of study and to identify common points : testimonies, methods, hypotheses, the link with official sciences (Lagrange, 2008). Andy Roberts (2007) used the expression "a wave of observations" for ABCs, such as it was said for UFOs, in the 1970s-1980s in the Northeast of England. The collection of testimonies is the main basis of cryptozoology and ufology. In a cryptozoological example: we can find a simple compilation of very disparate testimonies, with potential sightings of the cougar (or other ABCs) in the Eastern USA which should not be normally there (except in Florida) (Hensley, 2018), and methodical pursuit of the supposed panther which walks around in the state of Queensland in Australia (Williams and Lang, 2016). We find the same kind of examples in ufology.

To stay with the ABCs, British researchers Di Francis (1983) and Merrily Harpur (2006) worked for a long time on this subject, having a lot of difficulties to establish the origin of the animal studied, with no evidence or certain material proofs of its existence. Di Francis said that it was

felines, hidden for a very long time on British soil, and she linked them to legends of black dogs. Harpur was not the only one among cryptozoologists to lean towards paranormal apparitions, as she linked the sightings to the concept of *Daimon* in ancient Greece. Cryptozoologists and ufologists looked for indisputable material proofs like official sciences. But the frequent elusiveness of concrete traces encouraged many cryptozoologists and ufologists to look for very uncertain paranormal theories. Ufology looks as well for UFOs and extraterrestrials proofs in the past. Without knowing the context of the cultures, there is a huge risk to project spacecraft and extraterrestrials onto cultures.

Ghost planes and heavenly apparitions were part of the First World War history; we could not take and isolate them from it (Dumerchat, 2014). There were many “fantastic” stories of abductions in the past and present in numerous cultures in the world. But kidnappings by UFOs were very different. One example. “Supernatural” abductions in Japanese folklore, which could have been reported as completely real events, could be only understood in keeping with religions of the country (Blacker, 1969). It’s the same for encounters with “extraordinary” beings and entities, abundant in all folklores, which could be told as real experiences (*memorate*) (Méheust, 1992; Dumerchat, 1993, 2011).

Comparisons are always possible but they are not sufficient to clarify these phenomena. Ufology has nothing to gain when it sticks just to a single causality or connects to a single scientific field. There is generally more material evidence for cryptozoology. This is sadly not the case for UFOs. This is illustrated in the recent and fascinating inquiry from Jacques Vallée and Paola Leopizzi Harris (2021) into a supposed crash of a flying saucer. The book *Passport to Magonia* (1969) by Vallée compared elements of folklore and ufology. This is the book that initiated my interest in this subject.

A New World

For a very long time, there has always been displacements of fauna and flora on the earth through trade, conquest and colonization. The acceleration of globalization multiplied these movements. New kinds of pets, a boa constrictor in an apartment or a wolf in a house are becoming more common. Arrivals and settlement of new species, listed as invasive, are not without problems. International trade, urbanization of the planet, population increase, death or great changes of the rural worlds or what we still call nature, and global warming disrupt the planet and its human and animal populations. Humans, negatively or positively, constantly have an impact on the fauna.

For wild animals, and not just little ones, we all know examples of quite large animals appearing in cities. Boars and foxes, for example, are present in metropolises and towns or on their outskirts in Europe, coyotes and pumas in the USA, or leopards in India (Zask, 2020). There are six hundred wild species in New York like stags, coyotes, racoons, red foxes (Zask: 16). In France, for fifty years, a hundred wallabies, escaped originally from a zoo, lived in the forest of Rambouillet, near Paris. People are not surprised to see thousands of ring-necked parakeets (*Pittacula krameri*) living in Paris and nearby, since forty of them escaped from a Belgian zoo in 1974 (Lasserre and Ruoso, 2029: 208-215, 98-105). Overhead, sky and space are so full of technological artefacts that they can just encourage our perplexity on what we can see by night. And so, the USA have just set up another research program dedicated to UFOs.

Far be it from me to explain ABCs and UFOs through these obvious remarks. But it's in our world today that they take place. In a world whose fauna and flora have been disrupted and where a profusion of exoplanets have been found. A gigantic telescope has just been sent into space to see what we can learn about them. For a long time, space has been settled by extraterrestrials and it's not possible to separate known facts from fictions. For a long time, science and technology have revolutionized the objects from the most ordinary to the most sophisticated, flooding the planet. Science fiction anticipated a lot of technology and changes that would take place in the future : from the extending of our life reality, we speak now about metaverse, to robots and artificial intelligence through mental, physical and social transformations of human beings.

The English naturalist and writer John Richard Jefferies has even anticipated in the 19th century book *After London* (1885), with a persuading manner if we read it now, what wild and domesticated animals would become in a future devastated world. Bertrand Meheust (2007) has shown how impossible it is also to separate science fiction from UFO history. Cryptids were imagined in fiction before zoology and cryptozoology studied them. From a long time ago, in fiction, the most famous are lake monsters, especially that of Loch Ness, yeti, bigfoot, sharks and crocodiles now.

With regard to our interest here, scientists have shown that our nature and culture conceptions (Descola, 2015), or the way sciences are developed or how they are talked about beliefs from the Others (Latour, 2009), about other possibilities to make place for non-humans. Unclassified UFOs and animals are part of this group. We must not forget, each society has different understanding of the entities of which they are made. This observation could lead to a new encounter between anthropology and cryptozoology (Hurn, 2020) abolishing the frontier between the two worlds, taking seriously what witnesses have told, comparing the native point of view and that of sciences, compared with other knowledge.

ABCs have their place (Franklin, pp. 186-202, Hurn, pp. 203-217), whether real or not. They are a part of the rural culture. Official research, particularly folklore in Anglo-Saxon countries (especially UK and USA), has not hesitated, for a long time, to consider without ridicule what Fortean and parasciences report. It's absolutely not the same in France. On UFOs and their witnesses, it's for a long time the work that P. Lagrange (1990, 2019) is asking for. Most of the time, official science researchers who look into these topics, have a preconceived theory. They neither read nor listen objectively to witness reports, they just try to reduce all that to illusions and beliefs. Most of the witnesses of UFOs tell what they have seen, it's the same for the mysterious felines. Naturally we can find mistakes, we have to take everything into account in research, the part of inventions and hoaxes is relatively small. To speak about "collective hallucinations" has been scientifically old-fashioned.

The testimony of witnesses is one basis of social sciences. But in the domain we are interested in now, our witnesses become immediately suspects. What they are talking about, doesn't fall into what scientists consider as believable. They don't correspond to main criteria of the sciences that could be interested in it. Their testimonies don't correspond to the common and current representations of the accepted realities. Jean-Marie Brohn (2010: 51-82) points out that those

who see extraordinary things are always awkward and suspicious witnesses for many societies today.

In a time when well-known scientists did not hesitate to involve parapsychology in ethnological works (de Martino, 2003 [1948], Elkin, 1998 [1976]), it did not help at all to make parapsychology an interesting field of research for the established sciences. The situation is worse for cryptozoology. For ufology, it's the same, the structures of official investigations are often interested in a possible threat of real danger from space. It is not always the case, in France, the GEIPAN (*Groupe d'étude et d'information sur les phénomènes aérospatiaux non identifiés*) works seriously (Passot, 2018). It's dangerous, even now, in a researcher's career to talk about having heard a ghost voice (Carr, 2018). Still, some of them don't hesitate to be interested in haunted houses and current sightings of ghosts (Terrain, 2018, Perry, 2018) and to take a risk with the anomalistic in the field of social sciences (Evrard and Ouillet, 2019). We can just hope that this skepticism changes in the future and that witnesses can be really taken seriously. Witnesses are the basis, for the most part, of parasciences and their contributors. The problematics of the parasciences have to be based on controversy. We must not forget in our societies, it's also true for many subjects.

Conclusion

Testimonies are the main basis of cryptozoology and ufology. If we are actively interested in this research, the first work is to collect the testimonies, respect the witnesses and lead real inquiries. In general, official social sciences don't take these conditions into account. We must also put these testimonies into contexts with everything related to them. We can't separate reports from cultural and social contexts. And controversies are always part of these subjects.

A certain percentage of UFO reports are still unexplained and cryptozoologists are right to say that forgotten or unknown animals, or new animals, can be discovered. Since 1947, the beginning of UFO history, and since the 1950s, the beginning of cryptozoology, the world has changed a lot. UFOs and cryptids have also changed, they are no more necessarily the same. They don't always raise the same questions. There are novelties in the methods, in the circulation of the research and the studies in which scientists can get involved. The complexity of the human cultures and the reality such as we imagine it, makes it necessary to consider, in the past and in the present, that the mysterious animals and the strange celestial phenomena cannot be understood in the same way in Papua New Guinea or in England. We cannot also separate fiction in general and its importance from the worlds of the cryptids and the UFOs. The films, the world of pictures, the literature had a tendency to forget the ABCs. Just one isolated example, a French film, *Les Fauves* (Vincent Mariette, 2018), moves between realism and the fantastic; it shows us, better than a long talk, how difficult it is to know if the "phantom" Big Cat from the film has been really seen or met... reality is complex.

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Belief in *Aliens* and the Imaginary: A Transdisciplinary Approach

Carlos Reis

*Si el hombre renuncia a su ilusión
de un dios paternal, si se enfrenta con
su soledad e insignificância em
el universo, será como el niño
que ha dejado la casa de su padre.*

Erich Fromm

Psicoanálisis y Religión

Abstract: Amidst a historical and cultural scenario of profound socio-political and ideological transformations, contemporary society is experiencing an era of uncertainty, fear, and hopelessness, which induces one to create and cling to all sorts of illusions, beliefs, and utopias – angels, gods, heroes, oracles, demiurges, extraterrestrials, and hierophanies – as instruments of coping with the rough reality of daily life. The search for identity, the non-admission of its inner weakness and external fragility, the fear of death and cosmic solitude, the search for completeness, and the impossibility of being a *transcendent animal*, lead one to existential anguish. This paper brings a condensed analysis of one of these “metaphysical crutches” by deconstructing the “modern myth” through hermeneutics and transdisciplinarity, reinterpreting its symbols, languages, signs, and representations. We base our claims on five decades of research and experience, supported by a ‘collegiate’ of the most expressive names in various areas of human knowledge.

Keywords: History, Culture, Imaginary, Belief, Cosmic significance

Architecture of an Illusion

Following Fromm’s (1956) thoughts, Becker (2008) understands that the need for cosmic significance is an anthropological structural datum directly linked to the horror of death. We do not like it, nor do we not want to admit that we are alone in the universe, and that we lean on something that transcends us – a system of ideas and powers sustaining us in which we are viscerally submerged. These two remarkable thinkers are not the only ones to adopt the same discourse, many join them, undertaking one of the most important reflections that integrate this matter. When one proceeds to an analysis on such a scale, it is essential to consider all the implicit variants through a transdisciplinary approach, that is, to go beyond the conjugate fields, which cannot be compartmentalized and watertight, always with a strictly critical view. This research platform, inaugurated in the mid-1980s, designed such an architecture in order to build bridges between the UFO phenomenon and the disciplines of knowledge that might have some relation with it: Sociology, Anthropology, History, Biology, Culture, Psychoanalysis, Philosophy, Neurosciences, Psychology, Mythology, Religion, and astronomical sciences. This study has shown, however, that “bridges” are not enough to bring light to more complex issues, they need to be integrated by establishing multiple permanent dialogues.

In order to fulfill this task, we intend to bring to academic essayism the specificity of ufological theme and, at the same time, enrich the critical view of ufological facts through university education. The problem consists, as Lévi-Strauss (1987) warns, in finding the invariant within a set of codes, what is common to all of them, and of translating what is expressed in the language of this set. That is, to *translate* and *interpret* what is expressed in a language through the

comparative study of structural similarities.

This paper presents a condensed overview of beliefs in general, particularly about “flying saucers” and *aliens*, their origins, their causes, the historical course, and the unfoldings of their influence on human life. A final opinion with echoes of conclusion does not mean that the topic has exhausted its possibilities of investigation, on the contrary, it indicates that everything is still in the initial stages of appreciation. The words of Sena da Silveira seek to portray the objective intention of the present study:

Perhaps there is here, to remember an important intellectual, Ernesto Laclau, a significant void: everything fits together, everything can fit in it, it is, in short, an immeasurable bridge of beliefs and movements, an endless catapult of credible fictions and theories. (Silveira, in Reis, 2016, p. 23).

The UFO phenomenon erupted through the combination of singular historical-social circumstances, religious drives, cultural factors and archetypal aspects, in a process of updating and ritualizing mythical thinking. In this sense, flying saucers have come to inhabit the popular imagination by virtue of a mistaken premise that has consolidated and is promoted through a systematic recurrence of errors. For these and other reasons, the “flying saucer” is part of a complex multifaceted synergistic system of biopsychosociocultural beliefs where mysticism, esoterism, divinatory practices, oracles, religion, spiritualism, post-mortem life, reincarnation, occultism, folklore, superstitions, legends and fantasies meet and confound, in a heterogeneous mixture of unprecedented creeds and hierophanies.

Deconstructing a Myth

Why “deconstructing” and why “myth”? In a very synthetic way, *deconstruct* can be defined as follows: Disassemble, decompose the elements for analysis and understanding of the whole; and *myth*: Narrative of symbolic meaning referring to aspects of the human condition. Deconstruction of a myth, therefore, is to decompose the elements of symbolic meaning for analysis and understanding of the aspects relating to the human condition. For seven decades the “flying saucer” subject has been the order of the day around the world, designed for newspapers, magazines, television documentaries, and congresses, always clad in an aura of sensationalism or scorn. Surveys around the world have never yielded any scientifically proven, concrete, definitive results, despite thousands of electronic records, reports, alleged contacts, abductions, and physical marks. Everything remains on the obscure terrain of speculation.

These “thousands” of cases include frauds, lies, misinterpretations, hallucinations, ignorance about natural atmospheric phenomena, and other interferences. Moreover, human behavior, psychic and psychological factors to a large extent and interests of all kinds must be taken into account at all social and cultural levels. Once the sorting is done, what is left is a tiny parcel that has plausible and satisfactory explanations, or are inconclusive cases due to lack of data or contradictory information.

Faced with this absolute lack of “evidence,” the UFO community searches for evidence of the alien presence on the planet – astronaut gods, Hollow Earth, secret underwater bases, Bermuda Triangle; buildings, temples, sculptures, objects, and archaeological sites; as well as rituals and primitive tribal customs that would have been inspired by the presence of extraterrestrials in

antiquity. Nothing more than a set of puerile hypotheses. Ufology goes around itself. Its liturgy resembles a script of science fiction, and often fantastic fiction, with all elements of fantasy, mystification, and mysticism amid much naïveté, farce, and deception.

To summarize, ufology is based exclusively on reports, photos, films, radar echoes, the alleged physical injuries suffered by witnesses, and on electrical failures occurring in vehicles and buildings at the approach of the “saucers.” Ufologists understand that the statements of army people, pilots, authorities, scientists, and experts can not be disputed, that the physical evidence is indisputable, and that the mental communication and psychographies made with supposed entities of other dimensions are unequivocal proofs of their existence. Thus, there is a consensus among researchers that the reality of “flying saucers” is definitely proven; the corollary of this thought is that *flying saucers are vehicles manned by intelligent beings, coming from long-lived and advanced civilizations that visit us with the most diverse objectives.*

This is a generalist interpretation of the UFO phenomenon, incomplete, superficial, and, under the circumstances, precocious and precipitous. The phenomenon can only be studied if it is atomized, deconstructed, so that its constituent elements are observed separately and meet the nexus – if any – between them. In this sense, hermeneutics is effective in interpreting and clarifying the study. Semiologist Umberto Eco has had a lot of concern and criterion when dealing with interpretation, either for the written text or for the analysis of a given event, and he has also had hermeneutics as a tool for reflection. It is the instruments that interest us. Hermeneutics can be understood as the science of the interpretative process, used as soon as there are forms of symbolic communication. Some important voices understand that the contemporary moment is, *par excellence*, a “hermeneutic era,” and ufology, in this particular case, could not be excluded from this examination because it is essentially a source of symbolic expression.

Asserting the *intentio operis* – the intention of the work (or fact) was, for Eco, its fundamental purpose. We are talking about deciphering what is expressed in the language and structure of the object, be it text, speech, or event. Eco asks how it is possible to prove a conjecture of the *intentio operis*, and at the same time responds that the only way is to verify it from the text (speech or event) as a coherent set. Strictly speaking, what ufologists do is look at the phenomenon through the “keyhole,” and in so doing the view on the other side is partial, fragmented, insufficient. One does not have the vision of the whole, only part of it, and this is decisive for a distorted interpretation of the reality of the facts.

Even if ufology is not a formally constituted discipline, one can not deny the reality of the phenomenon that it has proposed to study, but, if it is not aircrafts and extraterrestrial beings, what is it? What are we dealing with? In order to understand it, we have to go back a bit in history, to 1958. With an interest in the subject, the renowned Carl G. Jung spent much of his time examining hearsay, rumors and news running through the newspapers, within his clinical practice. After analysing the events, with a careful reading of the subject, talking to experts and researchers, and comparing reports to his patients’ dreams, Jung wrote that year *A Modern Myth of Things Seen in the Skies*, a work that became a milestone, provoked discomfort and criticism from his colleagues, and was rejected by UFO circles around the world.

It is important to highlight that at no time did Jung declare that the UFO phenomenon was a myth, but that it had such characteristics as to make him think that the psychic bias should be explored with attention: “Such manifestations seem to be modifications in the constellation of the dominant psychics, archetypes, ‘gods’ that cause or follow secular transformations of the collective psyche (Jung, 1991, p. IX). We believe that, at that time, his work was beyond the understanding of both laymen and researchers. He emphasized his point of view by stating that:

The psychic aspect plays such an important role in this phenomenon that it can not be overlooked. As my explanations try to demonstrate, the raising of this question leads to psychological problems that touch possibilities, or impossibilities, as fantastic as a physical observation (Id, p. 98).

In the late 1980s, by reading Jung and other authors, we decided to embrace this research line, broadening the spectrum of analysis by associating it with fields other than Psychology and Mythology, finding in Lévi-Strauss’ structuralism concepts a secure way to a possible understanding. By comparing the structure of the myth with that of the UFO phenomenon, we were able to identify similarities and parallels that overcame improbable mere coincidences. There was a clearly defined specular symmetry between them that could not be ignored:

- A) *Narrative*: links with the holy, the “high” or the transcendent;
- B) *Nature*: symbolic expression of higher forces acting in the unconscious;
- C) *Aesthetics*: manifestation in mythical scope: saving gods, heroes, “cosmic brothers,” supernatural creatures;
- D) *Meaning*: archetypes, psychic balance, non-transient divine character;
- E) *Function*: divided into four parts: Mysticism – dazzlement with the mystery, the magic, the fantastic, the *marvelous*; Cosmological – connection of human existence with the cosmos; Sociological – in the social, moral and cultural spheres; Psychological – in dealing with conceptions of life and death.

This fourth function – the psychological one – is one of the focal points of the present study, surely the most important one, when the phenomenon is articulated in terms of *finitude* and *immortality*. We are at the door of the imaginary, where, for Durand (2002), the necessity of the fantastic function resides in the faculty of the imaginary of surpassing temporality and death. The euphemization it secures is the main engine of this great socio-anthropological process. It is for this reason, according to the author, that myth becomes the provocateur of these two insurmountable cultural barriers – time and finitude. Here’s the point Experiencing the presence of a “saucer” or having “contact with *aliens*” is a way for the subject to be enveloped by the oceanic feeling of being “part of the cosmos” and giving some meaning to his poor biography. We are not afraid to say that the witness feels and believes himself privileged, *chosen* and even *blessed* (religious language) for witnessing an event of this nature, therefore, detached from most mortals. This ephemeral and unique moment, even if it is an illusion, fantasy or lie, can be the most relevant feature of one’s existence. The “saucer” or the *alien* is one of the symptoms of a greater and deeper cause. Obviously, the deliberate attitude of protagonism is evident. Anguish due to the lack of meaning in life – or excess, as Calligarisⁱ used to say – is as painful as the irrelevance of anonymity. It is very important to know that anonymity, loneliness, anguish, and neurosis sit at the same table.

But Lévi-Strauss (1987) still presents us with an additional function of myth – the compensatory function. According to him, the myth narrates a past situation which is the denial of the present and which serves both to compensate humans for some loss and to assure them that a past error has been corrected in the present, in order to offer a stabilized and regularized view of nature and community life. The myth creates a symbolic and imaginary compensation against the inescapable real needs, tensions and sufferings of the profane life, preserves the organization of collective life avoiding the fracture of the society. According to Durand (2002), a society can only develop if its institutions rest on strong collective beliefs.

The myth inhabits people's imaginary, with their uncertainties and the blind faith they place in something that has the power to guide their lives. This indefinite power is not only a deity in the sense of classical mythology, but will always be a power that transcends the physical limit and human understanding. In mirroring the myth with the UFO phenomenon we have, reflecting the words of other notable thinkers, the understanding and synthesis of the problem:

'Living' a myth, then, implies a genuinely "religious" experience, in that it differs from the ordinary experience of everyday life. The "religiousness" of this experience is due to the fact that one re-enacts fabulous, exciting, significant events, one again witnesses the creative deeds of the supernaturalists (Eliade, 1963, p. 19).

What is the alien but a supernatural creature? What is the encounter with the “extraordinary” but a transcendent, metaphysical, “religious” experience apart from the everyday world? Brazilian theologian and philosopher Rubem Alves gives poetic tones to his definition of myth: “Myths are stories that delimit the contours of a great absence that dwells in us. Enchantment is not in what you see, but in what you imagine.” (Alves, in Morais, 1988, p. 14). Absence of what, of whom? From the completeness of being. More than the simple connection with the transcendent, the relinking – *religio, religare* – of the profane with the holy, of the lower world with the higher plane, of the material with the immaterial. Religions are cultural, historical constructions where anthropomorphism is its foundation, and “flirting” with the gods is a reflection of human aspirations and ambitions. Religious thought arises out of this desire to connect with divinity. Eliade (1963) does not let us forget that sacredness for religious man is the complete manifestation of Being, and the enchanted world of stories, legends, fairy tales, fables, dreams and myths expresses this desire, or, more precisely, this *need* for re-encounter. We consider Cassirer's reference to Max Müller's reflection of special importance in the correspondence of language with compared objects:

For Max Müller, the mythical world is essentially a world of illusion – but an illusion that finds its explanation whenever the original, necessary self-deception of the mind, from which the error arises is discovered. This self-deception is rooted in language, which is never making game of the human mind, ever entangling it in that iridescent play of meanings that is its own heritage (Cassirer, 1945, p. 5).

The myth does not refer to an objective reality, but to an internal reality, subjective, abstract, conceptual, and emotional. It does not speak in a common language, but through symbols and metaphors, a language of correspondences, not of references. Likewise, the UFO phenomenon does not operate within an objective reality and does not speak a direct but symbolic language, by signs, symbols, and representations. It is up to man to decode such symbolisms and interpret

such representations because, according to Castoriadis (*in* Legros, 2007, p. 95), “Everything that presents itself to us in the socio-historical world is inextricably woven into the symbolic.”

Finally, Campbell complements the framework of definitions about myths, their relation to man, and between man and the world, in perfect harmony with the scope of this study:

Myth is a necessary and universal form of expression within the early stage of human intellectual development, when unexplained events were attributed to the direct intervention of the gods. What the myth does is to point to the transcendent beyond the terrain of the phenomenon (Campbell, 2001, p. 52).

Durkheim (2000) sees “religious thinking” similar to “social” and even a primacy over collective consciousness. In general, a society has everything it takes to awaken the feeling of the Divine in minds through the power that religion has over them. Religion is collective superstition and superstition is individual religion, Freud wrote (1969).

According to Lévy-Bruhl (2008), the primitive mind is irremediable and completely immersed in a mystical spirit state, unable to perceive the reality and truth with clarity and equity, disarmed from the faculty of abstraction and reflection, stuck in a manifest aversion to the reasoning and discursive operations of the thinking, unable to take advantage of the experience or understand the most elementary laws of nature.

This is what we seek to do, vigorously and disciplinarily, in the examination of the phenomenon, since when we consider it a palimpsest: to detach its epidermal layer in order to reach the “flesh,” the core, what is hidden. What is and where is the transcendent that Campbell (2001) is talking about? Certainly not the same as the mystic, the esoteric and the religious ones, but what transcends man – himself. The basic concept of mythology is the transcendence of personification, which is only a concession to consciousness to talk about these things: God, Brahman, Śiva, YHWH... it is the need to personify *something* that escapes our understanding. Why do we give names to aliens? Not because they are deities – they are not – but because giving names humanizes, and when humanizing, anthropomorphizes, approaches, establishes a character of reality to that what is unreal, of materiality to what is immaterial, of comprehensibility to what is incomprehensible. Just like the myth. By collating, approximating, anatomizing and interpreting the symbolism contained in these two matters – myth and UFO phenomenon – a resonance mechanism that generates and multiplies meanings is automatically installed.

When the gods are conjugated by an external influx, the archetypal forces protrude into the stimulus, appearing to our senses as being a predicate of the outer object, rather than something originating within ourselves. Thus, a fusion between subject and object occurs, through the bridge established by these forces as perpendicular, what anthropologist Lévy-Bruhl (2001) called *participation mystique*. This is how we introduce the object into our own psyche. This way it loses its character of absolute strangeness – we adapt to it, and the libido (as synonymous with psychic energy) that it was invested in can return to us.

This apparent predicate of the object is felt to be a total otherness, because it brings together what I do not know about it and what I do not know about myself. Just to reinforce the idea of Another, let us see what Abbagnano says: “To be another, to put oneself or to constitute oneself

as another.” (Abbagnano, 2007, p. 34). Returning to Lévy-Bruhl, he understands that the object is the Totally Other until I can incorporate it into my view of the world. With this, it also changes. This action is bipolar, it can occur both in relation to external objects and inward to my psyche, as long as one does not think of limiting it to consciousness.

In fact, the *inner space* is as vast and unknown as the exterior that fascinates us so. The experience of the Totally Other and the sentiment to which it originates is what German philosopher Rudolf Otto (2007) called *numinous*, considering it the basic foundation of religions, but not unique to them. It should be noted that *numinous* and *phenomenon* have a common Latin origin, respectively *numen* and *noumeno* – the thing itself, the ultimate reality apart from human action, the holy, unreachable to the senses and the rational. The numinous can be the property of a visible object, for example, a UFO, or the influx of an invisible presence, that produces a special modification in the conscience, for example, an alien.

The “saucer” is always beyond the sign. The sign only emerges with its absence, a mark of an already faded presence that we place on the emptiness inaugurated by its passage; it is born only after the real flying saucer – whatever it is – has already gone wherever it has gone. In a certain way, it is what Umberto Eco calls “cultural unity,” an image that brings together and represents a broad set of signifiers – lights, sounds, rays, flights, objects, photos, movies, images, and, above all, words – that translate a meaning not yet decoded. The flying saucer is a sign and only exists as such, a combination of various traits drawn from cases that do not always go together, never all together, but which are always sufficiently together so that one recognizes, or supposes, its inner uniqueness. As Renard points out, the problem of the existence of UFOs and extraterrestrials is spontaneously put in terms of belief: “Do you *believe* in flying saucers?” “Is the reason able to stand on its own in the face of prejudice and superstition?” (in Mayer, 1989, p.31).

We live in a world full of superstitions, and the imaginary is latent in symbols and reigning in aesthetics; the slightest vacillation of perception takes us to hallucinations, delusions and fantasies. A final comment on beliefs is given by Morin:

The imperative and prohibitive power of paradigms, official beliefs, reigning doctrines and established truths determines cognitive stereotypes, ideas received without examination, stupid uncontested beliefs, triumphant absurdities, the rejection of evidence in the name of evidence, and makes cognitive and intellectual conformisms reign everywhere (Morin, 1999, p. 42)¹.

If we accept that ufology does not exist in itself, and is therefore incapable of examining the UFO phenomenon *per se*, and if it has all the characteristics to be understood as a “postmodern” myth, it remains to deal with the *object*, the “flying saucer,” the instigator agent of doubt, controversy, and debate. It is here, indeed, that the problem takes on extraordinary proportions of complexity, and its approach amounts to the weaving of a Persian tapestry. In order to give consistency and security to the “architecture of the bridges” mentioned in the beginning, the

¹ Le pouvoir impératif et prohibitif conjoint des paradigmes, croyances officielles, doctrines régnantes, vérités établies détermine les stéréotypes cognitifs, idées reçues sans examen, croyances stupides non contestées, absurdités triomphantes, rejets d’évidences au nom de l’évidence, et il fait régner, sous tous les cieux, les conformismes cognitifs et intellectuels.

study is grounded in four pillars: history, culture, fiction, and imaginary, all of them interconnected by transdisciplinarity.

With history as the guiding thread, the key moment comes from the second half of the 20th century, where the fact markers of contemporary civilization converge – and intertwine: the end of World War II and the flourishing of the “Cold War,” the collapse of institutions and the beginning of an era of anguish, fear, and disillusionment; the end of utopias and the reckless possibility and proximity of dystopias, the *establishment* fissure and the lack of a reliable north. The compass of civilization was disoriented. The world began to “liquefy,” Bauman (2008) said later.

The rise of counterculture, feminist and student movements, New Age, Woodstock, Beatles, LSD, Aquarian conspiracy, Aleister Crowley, *beat* generation, cultural revolution, Vietnam war, contraceptive pill, transcendental meditation, Oriental philosophies, esoteric sects and orders, alternative medicine, ecological consciousness, *underground* culture. They are the new paradigms. It is the culmination of literature and science fiction filmography with its technomystical aesthetics. Orson Welles, with the radio version of “War of the Worlds,” consecrates the stereotype of domination by invading aliens. The imaginary, the symbolic language and the signs of representations leave the academic debate and reach the streets. It was the birth of postmodernity or late modernity. There was something more in the air than simple airliners, sex, drugs and rock’n roll. There were flying saucers.

It is indisputable that science fiction is a fertile soil of representations and formulation of reflections on contemporary society, its structure and relations with scientific knowledge and technological development. It is also the cradle of metaphors that reflect the social imaginary – creative capacity of the anonymous collective – about past, present and future. Representations are instruments of identification, ordination and hierarchy of social structure, identifying the group or environment that produced them and consumes them. As Chartier says:

The symbolic function (symbolization or representation) is defined as a mediating function that informs the different modes of apprehension of the real, whether it operates through linguistic signs, mythological figures and religion, or concepts of scientific knowledge (Chartier, 1980, p. 19).

On the other hand, ufology absorbs all the data of science fiction in a mimetic process, an incessant transfusion of ideas and concepts. It is a story that needs another story to assert itself, it does not have autonomous life, it subscribes and writes/describes in other ways, by means of borrowed words. It should be emphasized that mimicry is one of the fundamental characteristics of the human being, as a set of internalized codes, predefined from its behavioral base, referred from Aristoteles to René Girard, passing subjectively through the great literary men of history. Therefore, there is nothing new that ufology operates within this imitative principle. Science fiction is a kind of contemporary version of the myth, and the world is littered with rituals, dreams, and non-rational visions, manifesting new models of magical-affective syncretism.

Belief is a natural psychological predisposition, organic and even pathological, beyond the reach of criticism, reason and thinking, inducing a certain intellectual stagnation. It has roots in the religious drive, one of the fundamental psychic forces of man, because the subjective sense of

religion contemplates exactly the *belief* in a transcendent power, the feeling of *dependence* on that power, and the *need* for contact with it. The UFO phenomenon, on the other hand, incorporates some of the main elements of religious symbolism: transcendence, plenipotence, multi-presence, omniscience, redemptive force. With its techno-mystical guise similar to *science fiction*, one can conclude that the “flying saucer” is the culmination of the symbiosis between science fiction themes and parareligious beliefs. Put another way, we can say that science fiction is the gateway, and religion, the exit. Several authors with different shades help to compose a very interesting polyhedral panel on this topic. We start with Grünschloß:

Undoubtedly, an important attraction of beliefs in UFOs is their ability to synthesize elements of esoteric, spiritual, theosophical, and Christian traditions, to reconcile them with science, space technology, and modern cosmology. Specifically, the traditions of “numinous” people (e.g. the so-called “ascended masters” of Theosophy or the esoteric representations of Jesus Christ) often appear on the spectrum of UFO movements and their publications with a consistent pattern of functions (Grünschloß, 2002, p. 22).

For theologian John Saliba, of the University of Detroit, many aspects of UFO mythologies (anthropogenesis and evolution) seem to combine “Religious search for absolute answers with the certainty of scientific objectivity, and, thus, tend to appear as secularized or scientific myths.” (Saliba, 1995, pp. 15-64). It is important to emphasize that science fiction cannot and should not be stereotyped as a mere form of entertainment, minor literature or a genre of alienation, much less depreciated as mass culture, marginal and escapist. Its value for contemporary social construction is indisputable. It moves through a stream of provocations, reflections, revelations and truths, instigator by vocation. Sci-fi writers may be the ones who best understand the palpitation of the world and, in a sense, feel the absence of being in the human and express it in their works, not always with subtlety.

Every Child Dreams of Flying

The term “science fiction” may seem an oxymoron – an internal contradiction, claiming that its logical construction of counterposition and differences integrates procedures of a completely different nature: the fictional and the scientific. That is not correct, for it operates essentially with mediating metaphors between the subject and the world without the rigors of science.

Umberto Eco understands that fiction, in general, offers a reality that even concrete reality itself can not supplant, where the universe of narrative is the only one in which we can be totally sure of a thing and that offers a strong idea of truth. In his rich historiography on lands and legendary places, Eco not only reveals the human capacity to create imaginary worlds but also why it does so. If fiction exposes the truth for the lie, Morin asserts that, precisely because it is an “anthropological mirror,” cinema, as a mass vehicle of fiction, reflects practical and imaginary realities, the needs and dramas of human individuality. With insight and malice, sci-fi writer Ursula Le Guin reports that science fiction is not prophetic, not about the future, but elaborates a kind of “lie game”:

The only truth I can understand or express defines itself, logically, as a lie. Science fiction does not predict, it describes, “and it ends”: Science fiction is, in fact, a great metaphor, or an allegorical procedure, in which the dominants of contemporaneity intertwine (Le Guin, 2008, p.8).

And she is right, fiction is actually the lie that tells the truth. Lie brings to the surface the symbolic, determining its constitutive trait. Some of the recurring themes in science fiction are related to contemporary issues: the end of the world and the end of time; temporal paradoxes, communication and interaction with non-human intelligences; hybridity and genetic mutations, not incidentally present in philosophical and scientific encounters, in which discussions about the articulations between technology, subjectivity, and possible experiences have converged to the aesthetics of science fiction, evidencing the friction between factual and fictional in the present time. Still for Morin, there is a predominance of realistic fantasy and fiction over the fantastic and the documental, and it is the anthropology of the imaginary that brings us to the essence of contemporary issues. The hallmark of fantasy is to rationalize the fantastic.

When we talk about the man-extraterrestrial relationship, we inevitably enter into an equally complex theme – otherness. The question of alterity strikes the heart of man in his relationship with the world. Studies in this field are numerous, dense, and ever deeper. The *Other* is a fundamental piece for Psychoanalysis, Social Psychology, Anthropology, and Philosophy in the understanding of the subject, his behavior in society and its own. But, who Other? All of them, the next and the distant, the present and the absent, the old and the new, the brother and the anonymous, God and the devil, everybody. For Lévinas (2005), the *other* is the mirror of me, so we are interdependent, in(ter)dividual.

Lacan, in his study “Mirror Stage,” reiterates that the child, in order to reach the level of reality, must leave the imaginary mode of the vision of himself and of others, but, so that it can happen, he must use the symbolic mode. At some point, after the initial phase of contact with this *other body*, still not recognized as his/her, the child acquires the sense of *wholeness* and *unity*. Before that, he/she had a sense of *fragmentation*, of *shredding*, of *unruled body*. *The mirror gives the illusion of unity*.

When we admit our *cosmic childhood* and *solitude*, we establish a correspondence with the Lacanian study: *the presence of the alien gives man the same illusory sense of wholeness and unity, dissipates his misgovernance, and gives him an identity record*. In ufology, when we put ufologist and witness face to face, one sees himself in the other as if between them there was a semi-opaque glass: the face of one overlaps with that of the other, one *is* the other, one is reflected in the spectrum of the other.

The subject exists in function of the other, but the paradox is that one must disappear so that the other exists without the superimposed image. The other one talks a lot about me, while I know nothing about him. Only by understanding him will I understand me, and only when I understand myself will I understand him. Absolute aporia. It is the logic of the dialectic and the otherness advocated by Ricoeur, and yet, for Lévinas, *the Other is another Me*. A poetic license allows us to say *I am us*.

When we take this reflection to the territory of ufology, we are faced with a difficult equation of four elements, or, in terms of this language, four “others”: the researcher, the witness, the alien, and the UFO phenomenon. An intricate set of mirrors in which each one reflects himself and the

others, in a way that everybody is unknown to everyone. What is the true Face² of each one? Is there a true Face? Could there be presence without a Face? Who is behind my Face? For Scruton (2015), the wholeness of the subjectivity of the subject does not exist without the gaze of the other. And where is the one who does not see me and I do not see? What if the other's face is not the same as what I see?

Another, in Latin, is *alienus*, and alien – the “outsider,” or from any place beyond human dimension – gods, angels, demons, spirits... Bizarre, anomalous, burlesque, inhabitants of the realm of fantasy, of dreams, of myths and delusions, for this very reason so seductively captivating. Since man is marked by incompleteness, insufficiency, fragmentation and decharacterization of himself, he feels that *something is lacking*, and believes that “alientherapy” will restore the integral being and mitigate the pain caused by the presence of this emptiness. Myths, beliefs, dreams, and fictions are fruits of the magical vision of the world, putting anthropomorphism into practice. The imaginary is the spontaneous action of the spirit that dreams.

The diagnosis of the contemporary world presents a worrying picture, which can be translated by the following expressions: age of emptiness, outbreak of mass apathy, empire of the ephemeral, dilution of identities, shared solipsism. This body of definitions is summed up in three words: voracity, volatility, and vulnerability. Man still believes himself made just like the Creator because he refuses to recognize himself as fragile, needy, narcissistic, and cowardly. To mask this visceral anguish of helplessness and solitude in the cosmos, he creates fantasies, dreams, illusions, and utopias as defense mechanisms against a reality that reveals his ontological fears, his indigence and his non-place in the cosmic economy, and the contradiction of his mortality in the infinity of the universe. Contardo Calligaris³ once said that “Anguish is discovering that we are pieces of meat left on a lost and smaller planet, and that all of this does not make any sense.”

Sartre feels the man creeping lethargically through the dark crevices of the cave, imagining himself to be a knower of the universe when, in reality, he satisfies himself with his small discoveries with sound illusion for the maintenance of his existence. He extends his reflection by arguing that the consciousness of his existence and the feeling of existence come from thinking, but this awareness is a terrible thing when man realizes that the only way to escape existence is to flee from thought. At the same time, Sartre asks how to escape thought if the need for escape is already a thought that brings us back to existence? Another aporia? He concludes that we are incarcerated in existing; the thinking and the feeling of being are inseparable.

The *Other* discussed here goes beyond simply reflecting our image, it is the tormentor who reflects what we *think* we see or *imagine* to be. For Rimbaud, the Self *is* another one, a boomerang effect: the nuclear idea of otherness is to put us as “other” and bring it back to us. We are essentially relational beings within a multitudinous solipsism.

A reflection of the size of the one we have developed goes beyond the theoretical and epistemological contours of the engaged disciplines and of the phenomenon itself. There are no boundaries delimiting the geography of this knowledge; the voices that put man at the center of

² Face with capital “F,” according to Scruton’s writing, in a sense of “identity.”

³ Contardo Calligaris, “Angústia é descobrir que somos...,” <https://www.pensador.com/frase/MTg4NzZzMg/>

the discussion are not dissonant, but complementary, different visions that are not necessarily antagonistic. On the other hand, we should not underestimate the fact that all knowledge is not in itself free from deception and delusion in the search of truth, especially when it navigates in a sea of questions and doubts.

As an inverse cliché, the parts do not surpass the whole. Far from simple rhetoric, it is the way to ratify one of the pillars of complex thinking: incompleteness, unaccomplishment, fractional knowledge. Many topics could not be discussed or explored: the capital role of science fiction in language and in the making of the phenomenon, ethics, narcissism, religion, cosmobiology, dreams, language, folklore, cosmology, and symbolism in all strata.

Complexity is not necessarily a challenge, an engine of thought, as Morin (200) believes, but a recipe that replaces the simplification that almost always only answers, and does not clarify. Moreover, it is the complexity that leads to multidimensional and pollinator knowledge, but still incomplete. The correct understanding of utterances is also, above all, an unmodulated process of interpretation, which mobilizes the general intelligence and calls to knowledge of the world.

The current century demands, claims, imposes the urgency of an attitude of the one who intends to deal with the world, that is, to widen the range of connections with the knowledge where dialogue, reflection, dialectics, criticism, and transdisciplinarity must be the managers of the processes of growth. Either that, or the tenuous thread that keeps us tied to the present, will be broken by the weight of our inertia. In Morin's view, cognitive dynamics is the conjugation, in varying dosages, at all three levels – the individual, the collective, and the historical – of the three domains of aptitude that constitute the cognoscent subject: drive, reason and emotion. It is the connection between them that constitutes a given structure from which the collected knowledge and data are retotalized, resignified, understood, evaluated, and judged.

The general mapping of the study shows that, due to the historical bias, there is no doubt that the conjunction of specific factors contributed to the emergence of an *avant la lettre* phenomenon, of indisputable psychic nature in a silent gestation: wars, uncertainties, tensions, the political and social changes, and a culture in formation, making up a new and “strange” reality. In the psychic plane, it has been verified that the subject has no way to reconcile with himself or with the world, finding in the archetypes the outlet to express this conflict. The only language that the unconscious disposes come from symbols, images, deliriums, myths, and dreams. And neuroses. With the discovery of the unconscious, man saw his most repressed weaknesses, his deepest pains, his unpreparedness for life, his incapacity, and his existential shift sprouting: the thinking subject imprisoned in the predatory animal, an irreconcilable duality, a devastating subterranean confrontation, the total impossibility of a *transcendent animal*.

While man seeks a meaning for life, he finds death, and when he finds it, he does not know what meaning life has, or even if it has meaning, so he creates one for what he sees no sense in, and the search confuses with the veneration of obscurity. Sartre says that, more than death, existence itself is absurd, without reasons or explanations, it is not justified by itself. Not finding a meaning for life produces in man the noögenic, spiritual neurosis, one of the most widespread psychic sufferings in the world: the fear of death and the fear that life is just that – an instant of solitude between the first cry and the last breath. Human life lies between the nothingness of the before and the nothingness of

the after, a temporal spark in the cosmic calendar.

To the ontogenic desire to be part of the universe, Morin states that “To anthropomorphism, which tends to load things with human hope, cosmomorphism comes together weaker and darker, that is, the tendency to load man with cosmic presence.” (Morin, 1997, p. 87). Eco calls it *structures of consolation*, everything that contains an immediate appeal of leisure, of spectacular, that holds him off its miseries, horrors and misfortunes.

As anthropocosmomorphism fails to anchor itself in the real and objective world, it migrates to the imaginary. The imaginary substance merges with our emotional, psychic reality. According to Morin, “The imaginary confuses, in the same osmosis, the real and the unreal, the fact and the lack, not only to attribute to the reality the charms of the imaginary, but also to give the imaginary the virtues of reality.” (*Id*, p. 251).

Stars Don't Speak

Man feels abandoned on an islet lost somewhere in space, with no one to hear his cry. The slightest movement on the cosmic horizon rekindles his hope. If life is indeed a cosmic accident, an anomaly, a prodigy, or a privilege, a work of chance and nature, an extraordinary and fortuitous encounter of random organisms under the influx of unlikely factors, then it does not seem to make sense to seek meaning for it. What remains for man, who is not even master of himself, but neurosis? It remains to represent, to be the architect of the imaginary and the ability to (re)create images and invent senses and outputs. It remains to cry out for the gods. Finally, for Durand (2002), the imaginary is the total of images and the relations of images that constitute the thought capital, the great denominator where the procedures of human thought fit. Succinctly, the imaginary defines itself as an unavoidable representation, the faculty of symbolization from which all fears, all hopes and their cultural fruits flow continuously since the approximately one and a half million years that the *homo erectus* has risen on the face of the Earth. Man is a *museum of images*, produced and to be produced, which designates the set of images produced by the *symbolic animal*, as Cassirer used to say. *Museum* is the word that Durand uses frequently to name the collector of experiences in which the subject is constituted – a *museum of representations and symbolisms*.

If we consider ufology in the realm of magical thinking, the imaginary, when in excess, breaks the limits of the real and assumes itself as absurd, the surreal, the extraordinary. “Magical thinking” is one of the escape routes in order not to face the truth of one’s own internal and external experience, starting from the creation of a mental state that starts to come into its own reality – angels, oracles, spiritual entities, demiurges, aliens... an alternative, imaginary reality. The displacement, or transfer, to this imaginary reality is made through soteriological metanarratives juxtaposed in the flow of daily individual experiences: religious and non-religious beliefs, fictions and fantasies.

Magical thinking is also, ultimately, an amalgam of the ego’s defense mechanisms: displacement, fantasy, negation, compensation, projection, repression... Magical thinking is just the symptom of a cause that comes from the cradle, goes through the formation of the personality, and culminates in the inevitable needs and insufficiency of the individual. Melanie Klein, Anna Freud, and Jacques Lacan are some of the main names that gave their lives to this important question. The contribution of psychoanalytic studies has been essential to understand

the labyrinthine paths of the human mind, and this cannot be ignored. Thus, ufology is an invention and, as such, it is quite plausible to think it needs to go to the couch! The “fantastic” is one of the tributaries of this abundant imaginary river, and reveals an invasion of the incredible, the disconcerting, the supernatural in the natural world, as Caillois (1965) would say, the “unusual outburst”, is capable to signal movements for the reconfiguration of new forms of intervention in reality. For him, the “amazing” presents the supernatural event, which brings the subversion of conventional space and reflection; however, these supernatural events are inserted in everyday life and duel in two contrary dimensions, there being no total substitution of reality for fantasy. The imaginary is the legacy of mythical thought, a concrete thought that, operating on the principle of analogy, expresses itself through symbolic images organized in a dynamic way.

We must apply Semiotics to remove the veil of intentions behind verbal and non-verbal language. Any phrase, word, statement, formulation is a symbol of thought, just as language contains symbolism. Thought and word complement and combine; the symbol itself is essentially synthetic, therefore “intuitive,” serving better than language as a support for “intellectual intuition,” which is above reason. When dealing with the semiotics of magic, Nöth (1996) refers to the “enchantment” that words and narrative antics produce, signs that put themselves in the place of something else not revealed. It is the meeting of the subjective, adjustable unreal, with the concrete and immutable real.

According to Durand (2002), the world of images is divided into two domains: The first is that of images as visual representations: drawings, paintings, prints, photographs, signs that represent the visual environment. The second is the immaterial domain of images in our mind, which appear as visions, ghosts, imaginations, schemes, models, mental representations in general. Both domains are not separate, but inextricably linked to the source. There are no images as visual representations that have not arisen from images of those who produced them, just as there are no mental images that have no origin in the concrete world of objects.

Eco states that “we can define as a sign anything that, based on a socially accepted convention, can be understood as something that is in place of something else,” (1997, pp. 9-11) therefore, a representation. Peirce understands that the notion of representation includes several meanings, without losing its connection with the image, and can be seen as a synonym for both symbolic image and sign. Chartier notes that:

The symbolic function (symbolization or representation) is defined as a mediating function that informs the different ways of apprehending the real, whether it operates through linguistic signs, mythological figures and religion, or the concepts of scientific knowledge (Campbell, 2001, p. 52).

For Campbell, this particular aspect of the human experience obeys the two great themes that permeate the mythologies and religions of the world. They are not the same. They have different stories. The first to appear can be called *astonishment* in some of its modalities, from mere confusion in the face of the unexplainable to the outburst of demonic terror or *mystical reverence*. The second is self-salvation: redemption or liberation from a world that has lost its luster. The gods represent protective forces that sustain the subject in his field of action. When contemplating the divinities, he gains a kind of stabilizing force that places him, so to speak, in the role played by a particular

divinity, because the symbols of the divinity coincide with those of the Self, that is, with what, in the form of psychological experience, it represents the psychic totality and expresses the idea of divinity.

Ufology pulsates between fictional dynamics and redeeming ideology to mold its own concepts, firm as a house of cards, solid as the rainbow, while the UFO phenomenon, on the mythical plane, reveals a load of symbolisms that surpass it: the symbol is a kind of concrete abstraction, always poorer than what it symbolizes. Anyway, both of them, through different paths, deal with the ambiguous and conflicted human nature: sometimes mystical and fragile, sometimes critical and rational. After all, is “flying saucer” our projection, or are we its projection? In conclusion, for us, the “flying saucer” has never been a “saucer,” much less a “flying” one. In conclusion, Jung’s reflection appropriately synthesizes the great question of man, chorusing many who have gone through these pages and others absent of equal importance:

In every adult, there lurks a child – an eternal child, something that is always becoming, is never completed and calls for unceasing care, attention and education. That is the part of the human personality which wants to develop and become whole (Jung, 2008, p. 150).

At the heart of man there is a long and hard battle, which consumes deal psychic energy, so that the unconscious leaves the conscience out of the conflict of finitude. Ortega y Gasset understands that the true human condition is that of a castaway:

The man with the clear head is the man who frees himself from those fantastic “ideas” and looks life in the face, realises that everything in it is problematic, and feels himself lost. As this is the simple truth- that to live is to feel oneself lost- he who accepts it has already begun to find himself, to be on firm ground. Instinctively, as do the shipwrecked, he will look round for something to which to cling, and that tragic, ruthless glance, absolutely sincere, because it is a question of his salvation, will cause him to bring order into the chaos of his life. These are the only genuine ideas; the ideas of (Ortega y Gasset, 1930, p. 114).

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VI

METRICS AND SCALING

Measuring the Subjectivity of UFO Testimony

V.J. Ballester-Olmos and Miguel Guasp¹

No siempre nos es dable adquirir por nosotros mismos el conocimiento de la existencia de un ser, y entonces nos es preciso valernos del testimonio ajeno. Para que éste no nos induzca a error son necesarias dos condiciones: primera, que el testigo no sea engañado; segunda, que no nos quiera engañar.

Balmes²

Abstract: A method to quantify and rate the value of the subjectivity of UFO testimony is proposed. Four criteria based on data collected by the field investigator give shape to an algorithm to establish an “index of subjectivity.”

Keywords: UFO reports, UFO field inquiry, Subjectivity of UFO testimony, Measurement criteria, Index of subjectivity (*S*), GEPAN

Introduction

The French CNES-based Groupe d'Études des Phénomènes Aérospatiaux Non Identifiés (GEPAN)³ has designed a quantitative system to express the degree of subjectivity of the human testimony applied to UFO reports. (Jimenez.) Based in the interrelationship of a series of elements, it provided a numeric measure of this subjectivity. This model positioned every case within a continuum establishing the “probability that subjective elements are reduced to a minimum” (PESM). This system was self-evaluated with the assistance of three criteria: multiplicity of witnesses, coincidence in the observational data, and effect on preconceived ideas of witness. Apparently, GEPAN later abandoned this model in favor of a more detailed examination of single UFO reports.

Index of Subjectivity of UFO Testimony

The GEPAN idea is conceptually valid, but in our opinion, it can be improved. Mainly because its two first criteria were already part of the parameters of our own “index of certainty.” (Ballester-Olmos, Groff, and Johnson.) By managing new concepts, we will fulfill the need to develop a valid model to standardize the definition and assessment of UFO cases, and, in the first instance, to have a measure of the subjectivity of a report, which complements the index of certainty already cited.

The new method to follow consists of highlighting a set of positive indications, emanating from a logical discourse, the lack of even one of which will mean a breakdown in the reliability of report and

¹ This paper was originally part of a larger essay entitled “Medida de la subjetividad del testimonio,” published in V.J. Ballester-Olmos, *Investigación OVNI*, Barcelona: Plaza & Janés, 1984, pages 234-242.

² Jaime L. Balmes (1810-1848), *El criterio*, Madrid: Espasa-Calpe, 1968. In English: It is not always possible for us to acquire by ourselves the knowledge of the existence of something, and we must make use of the testimony of others. For this not to mislead us, two conditions are necessary: first, that the witness is not deceived; and second, that he does not want to deceive us.

³ In 2005, re-named GEIPAN, Groupe d'Études et d'Informations sur les Phénomènes Aérospatiaux Non-identifiés, <https://www.cnes-geipan.fr/>

reporter. Tracking these factors will consequently be inevitable for field investigators at the time of their work, in order to optimize it.

We believe that there are certain distinct levels with respect to which we establish the various *sine qua non* conditions for meriting the trustworthiness of human testimony; such a conclusion, as well as the relevant levels, are deduced from the fact that eliminating the unknown whether or not the witness is deceived or deceiving is the same as minimizing the uncertainty we have about the event, or, conversely, as maximizing the certainty we have about it. The levels mentioned are the consistency of the information provided, the witness's own personality, the impact of the alleged event on his beliefs, and, finally, the psychophysiology of the witness.

Consequently, in order to quantify the probability of subjectivity of UFO information, we propose the following model:

Criterion CI: It denotes the level of concordance and consistency of the testimonies.

1. There should be no visible inconsistencies in the narrative/report, nor should there be other more surreptitious inconsistencies that are only discovered when two or more variables contained in the information are computed or correlated. Nor should there be disagreements with data outside the report (meteorological, for example).
2. There should also be no different versions in narratives made to different people, nor evident distortions in the information over time.

The weight (W) will be:

	$\frac{W_i}{}$
Internal consistency of the story:	1
Lack of consistency:	0
Unique version of the facts:	1
Different versions:	0

Criterion CII: It describes the subject's personality and behavior in relation to the subject of reference.

1. It indicates the lack or not of a background of seeking notoriety, and the lack or not of a desire for publicity or economic exploitation of the sighting.
2. It indicates whether or not there is a significant fondness for the subject of UFOs, esotericism, occultism, etc. (at least in the most spectacular cases).
3. It rates the existence or absence of other alleged visions or experiences of an abnormal nature.

	$\frac{W_i}{}$
Background of notoriety:	0
Lack of background:	1
Exploitation of UFO event:	0
Lack of exploitation:	1
Interest for "occult" topics:	0
Lack of interest:	1
Subsequent experiences:	0
No further experiences:	1

Criterion CIII: It designates the impact of the case on the witness's beliefs (the fact that the witness's claims may appear as a suspicious reinforcement of his or her personal beliefs about the UFO phenomenon, its existence, nature, etc.)

	$\frac{W_i}{0}$
Reinforcement of positive or negative beliefs:	0
Absence, maintenance or reversal of positive or negative beliefs about UFOs:	1

Criterion IV: It measures psychophysiological aspects of the subject perceiving the phenomenon.

1. It denotes the lack or absence of past or current neurological, mental, memory, perception disorders, etc.
2. It indicates the existence or non-existence of conflictive or oppressive family, work, or emotional relationships. In general, evidence of not being subjected to especially hard, unusual, or prolonged stress or strains.
3. Existence or non-existence of medical history involving the intake of "unusual" drugs and medicines, with potential sensory contraindications or after-effects.

	$\frac{W_i}{0}$
Existence of mental disorders:	0
Lack of mental disorders:	1
Evidence of strain, stress, etc.:	0
Lack of such evidence:	1
Unusual medical history:	0
Lack of unusual medical history:	1

The maximum (M) and minimum (m) values that can be achieved are:

$\frac{CI}{M \ m}$	$\frac{CII}{M \ m}$	$\frac{CIII}{M \ m}$	$\frac{CIV}{M \ m}$	$\frac{Total}{M \ m}$
2 \ 0	4 \ 0	1 \ 0	3 \ 0	10 \ 0

In turn, the intrinsic valuation of each set of criteria is not identical. Our valuation (v) is as follows:

	$\frac{v_i}{40\%}$
CI	40%
CII	20%
CIII	10%
CIV	30%

In our opinion, these different percentages provide the relative weight for each of the criteria for the assessment of human testimony in close encounter UFO sightings.

We are specifically interested in creating a numerical tabulation of the above criteria, so that a mathematical rating can express the subjectivity (or objectivity) of human testimony applied to UFO events of high strangeness. Such an index would encompass the values given above in a single formula.

We believe we have found an expression of this index of subjectivity (S) in the following way:

$$S = 1 - \left[\sum_{i=1}^{IV} \frac{W_i - m_i}{M_i - m_i} v_i \right]$$

Where:

$i = I...IV$, refers to the four criteria described above (CI, CII, CIII and CIV)

W_i is the weight or sum of the values reached by each criterion

M_i and m_i are the maximum and minimum values that every criterion can reach, respectively

v_i is the percentage of assessment contributed by each criterion

A simpler version of the above formula, in developed form, is as follows:

$$S = 1 - (0.2 \cdot W_I + 0.05 \cdot W_{II} + 0.1 \cdot W_{III} + 0.1 \cdot W_{IV})$$

which indicates that the index of subjectivity of the testimony, denoted by (S), is equal to the sum of the different relative weights of the four criteria, duly adjusted by certain coefficients. The higher the value found, the greater the subjectivity of the testimony.

Interpretation of the Subjectivity Index

The (S) index thus obtained has a range of variation that oscillates between 0 and 1. The application of this index to a variety of different situations allows us to score it, which leads us to interpret its value with simplicity when applied to a specific UFO report.

Figure 1 graphically shows the range of the index expressed as a percentage from 0% to 100%. (Evidently, a value $S = 0.50$, for example, is equivalent to an index value of 50%.)

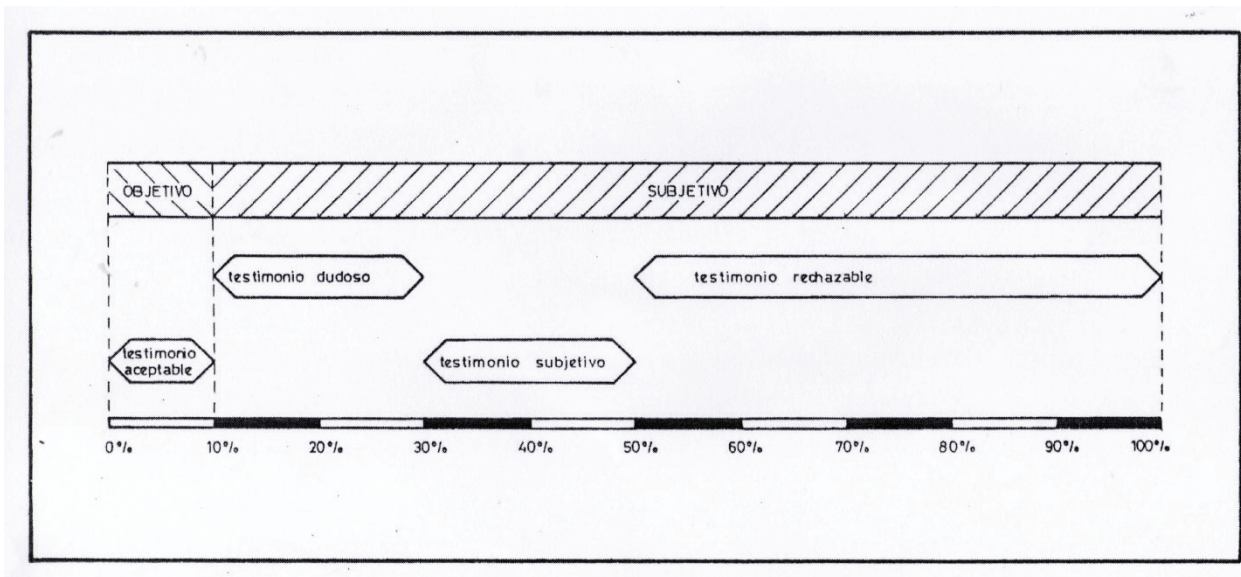


Figure 1: Variation of the Subjectivity Index (S) of a UFO testimony.

Legends:

OBJETIVO: OBJECTIVE - SUBJETIVO: SUBJECTIVE

Testimonio aceptable: Acceptable testimony

Testimonio dudoso: Dubious testimony

Testimonio subjetivo: Subjective testimony

Testimonio rechazable: Rejectable testimony

Only those testimonies with a value *below 10%* can be considered as *objective testimonies*, i.e., testimonies that under normal conditions should be accepted because of their low subjectivity. Above this value and *up to an index of 30%*, the cases have a normal appearance but contain different elements that point to a *reasonable doubt* of the testimonial integrity. Between *30% and 50%* are those testimonies that are *insecure in form and content* and do not refer to an external reality; there seem to be motives that present high symptoms of subjectivity. *Above 50%* the testimony should be *discarded* since there is not the slightest confidence in the integrity of the witness's testimony.

We believe this proposal is a practical tool in the path to a scientific study of UFO reports. If field investigators include the above sub-criteria in their normal survey work, a presumed UFO event will be considered valid for further examination when its subjectivity parameter complies with the values indicated above. The availability of these quantifiable parameters allows us to take a step forward and prevents us from lagging behind events that can be interpreted with the help of analytical sciences.

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The Reliability of the UFO Sighting Story

Marc Leduc

Abstract: Once verbally documented, a UFO¹ sighting recounted by an observer is presented as a story authored by an investigator. It is typically formatted in a scientific-looking report. The current techniques for evaluating UFO stories meet the criteria for the value of information in a scientific document in different ways, as their review shows. It is nevertheless interesting to compare three simple ufological techniques and, to accomplish this, three examples of application are compared. In conclusion, the three techniques prove to be complementary. In addition, each can serve as a sampling modality and enable the comparison of groups of sighting stories. For instance, time series derived from groups of stories of different values may be compared. It appears that the time series of the compared groups of stories are indistinguishable. How can this be so?

Keywords: Comparative group, Criteria, Indistinguishable, Sampling, Reliability

About Strength and Weakness of a Story

In the field of ufology, the observation story becomes the primary datum since, in principle, it contains the description of an unexplainable phenomenon after verification. However, it is also its Achilles' heel, since the testimony of an observer is subjective and the report of the investigator a matter of judgment. Experience suggests that the observer himself rarely reveals his story directly to the general public. A UFO story nearly always takes shape as a result of the work of an investigator or journalist and is therefore part of a process. The reliability of the story and the observer should be addressed in the context that a triviality may take more significance than the observer thought, or conversely, a strangeness that impressed him may appear to be insignificant. Generally, the cases are classified as a misunderstanding: such vision, secret military device, hoax, religious conviction, deception, and of course, as a UFO. Judging the story is dependent on the reliability of several sources, including the reputation of the observer (quality of the information initially narrated), and the investigator (reconstruction of the information), as well as the relevance of the information provided by the medium. To sort out the stories and assess their validity, researchers have developed various criteria of reliability.

Brief Review² of Reliability Criteria

The information index of Poher,³ as well as GEPAN⁴ [Study of Non-identified Aerospace Phenomenon], describe the elements of a comprehensive report such as: date, time, place, number of observers, etc. MUFON-France,⁵ incorporates degrees of strangeness, a confidence index is also applied. On the other hand, Ballester and Guasp⁶ have conducted exhaustive work by introducing a complex formula that takes into account indices of confidence, credibility, and reliability, including the maturity of the observers, and the circumstances of the sighting. In the long run, some information is found to be of little value and is not prioritized by researchers. The

¹ The word "UFO" will be used as a common noun.

² The limited scope of this article allows for only a very brief review.

³ Poher (1971-1976).

⁴ GEPAN (1981 and 1982).

⁵ MUFON France (2014).

⁶ Ballester-Olmos, V. J. and Guasp, M. (1989)

contributions of three simple techniques will be examined, including those of Hynek,⁷ Randles and Warrington,⁸ and Vallee.⁹ The examples applied to three UFO stories are discussed below. The UFO stories presented here come from Quebec, in which the ability for further investigation has expired and the relevant information has been consolidated. The comments will have a general scope.

First Example

The purpose here is not to present the case in detail, but to briefly describe the application of Hynek's technique in which he proposes two criteria for each UFO story.

Hynek's Criteria

First, the strangeness index (E)—referring to *Étrangeté* in French—captures the quantity of information that is not readily explained in terms of motion, shape, brightness, physical effect, etc. In theory, each unit of information corresponds to an element that is resistant to proper explanation. If $E = 10/10$, then the evidence remains completely incomprehensible. Conversely, if $E = 0/10$, nothing odd is apparent and a complete and clear explanation of the evidence is available. Hynek assigned $E = 3/10$ for three pieces of information that defy explanation. This value constituted the threshold for a good-quality observation story for scientific research.

The second criteria, the probability index (P), captures the quantity of information that lends credibility to the story, such as the observer's experience in the context or whether there are independent observers. If $P = 10/10$, then one is "certain" of the accuracy and reliability of all information. If $P = 0/10$, then one cannot believe anything that is told. Hynek assigned a ceiling of $P = 3/10$ to an account told by a single person who was deemed credible and reliable.

First Case: A UFO Account with an Exceptional Shape



Figure 1. Bats, covered with metal.

⁷ Hynek (1972).

⁸ Randles and Warrington (1979).

⁹ Vallee (1991).

The case occurred in Chateauguay (Monteregie) ¹⁰ at 9:30 p.m. on May 29, 1978, over a period of 10 seconds: A teacher spotted two objects resembling bats. They appeared black, seemed to be covered with metal and were approximately the size of the moon. The second object was slightly higher than the first. The two objects travelled across Lake St. Louis at a low altitude in silence until the observer lost sight of them in the darkness of the sky. How do we interpret this story? Were they machines carrying out monitoring or possibly related to the famous contraband on this water surface at that time? Would kites have deceived the observer? Coincidentally, a television program titled *Legends of the Superheroes* was produced that same year featuring Batman and Robin. Could this have been a joke by the teacher on that occasion?

* Hynek: Strangeness: 5/10 (shape, apparent size, volume, quietness, the short motion amplitude of 10 seconds is astonishing).
 Probability: 3/10 (the maximum for a single reliable observer).
 A site visit, and meeting with the observer was held.

Second Example

When a UFO observer contacts the news media directly, there are often two common ways in which the information is processed. First, with reputable, so-called “serious” medium and editing process, the processing is usually a devaluation in keeping with the mainstream thinking that holds the UFO observer up to public scrutiny. By contrast, with a lighter or simply mercantile media, the presentation is often treated sensationally. How valuable is a particular case? The purpose here is not to present this case in detail, but rather to briefly examine the application of the Randles and Warrington technique.

Randles and Warrington Investigation Levels:

- “Level A: A report which has received on-site investigation by experienced investigators.
- “Level B: An interview with the witness or witnesses was conducted by investigators but without any follow-up investigations into the case.
- “Level C: The witness has only completed a standard UFO report form of some type. No interviews have been conducted.
- “Level D: The report consists solely of some form of written communication from the witness.
- “Level E: The report is based on information received second hand (such as a newspaper account). There has been no follow-up investigation at all.”¹¹

Second Case: Sensationalism

The late journalist André Rufiange wrote the following sidebar in the *Journal de Montréal* on February 9, 1975:

¹⁰ CASUFO® case number 1612.

¹¹ Randles & Warrington (1979, p. 167)

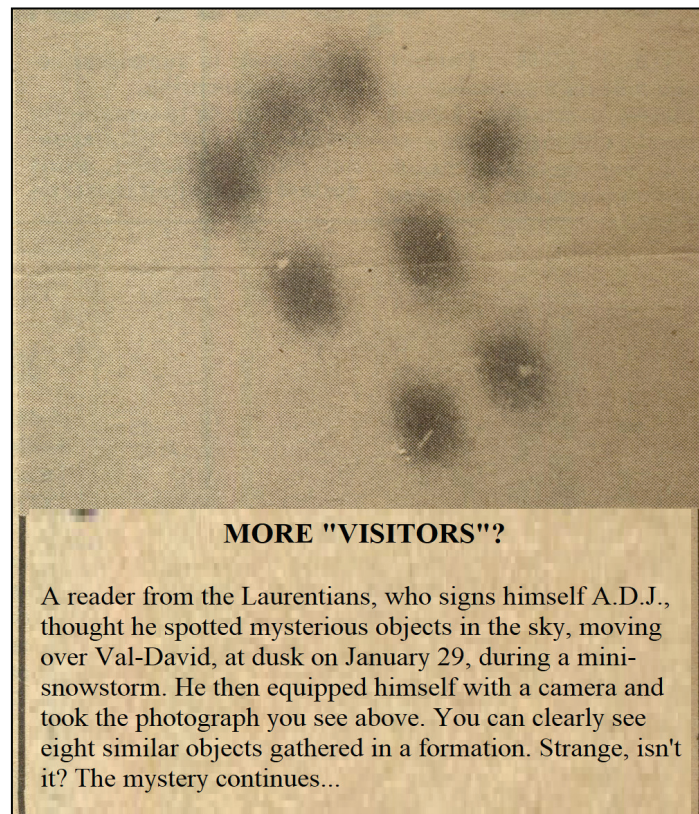


Figure 2, Rufiange box

Several questions arise for lack of information. Was the photograph taken through a home window or a windshield? Were the movements of objects seen by the eye rapid or slow? What were the angle of elevation, apparent size, and possible distance? Is this a color photograph?

Could it possibly be a snowflake bursting into water droplets on the glass surface of the camera lens, which would explain the blurring of the focus? Has the photograph been reframed? In the caption below the photograph, why does Rufiange write "objects"? Why would he write, "The mystery continues"—which one? With its attention-grabbing title, the text certainly serves to sell the newspaper. For this case,¹² it is possible to assign the following values:

- * Randles and Warrington: Level E
- * Hynek: Strangeness: 1/10
Probability: 2/10 (possible visual + photograph)

Third Example

This story is much more difficult to explain. The purpose here is not to present the case in detail but to briefly report on the application of Vallee's technique.

¹² CASUFO[®] case number 404.

The Value of the Case Using Vallee's SVP Reliability Scale¹³

Table 1: SVP ratings

	S (reliability of the source)	V (whether or not a site visit took place)	P (probability of natural explanations)
0	Unknown source, or an unreliable source.	No site visit, or the answer is unknown.	Data are consistent with one or more natural causes.
1	A source of unknown reliability.	Visit by a casual person unfamiliar with such phenomena.	Natural explanation requires only slight alteration of the data.
2	Credible source, second-hand.	Visit by a person(s) familiar with a range of phenomena.	Natural explanation would demand gross alteration of one parameter.
3	Credible source, first-hand.	Visit by a reliable investigator with some experience.	Natural explanation demands gross alteration of several parameters.
4	First-hand personal interview with the witness, by a source of proven reliability.	Visit by a skilled analyst.	No natural explanation is possible, given the evidence.

The Third Case: “[...] *those flat animals on the ocean floor.*”

This interesting sighting occurred on November 12, 1978,¹⁴ from 7:30 to 8:40 p.m.: A family of three is driving home to Sorel after having dinner in Drummondville. The return trip takes them through Pierreville, Yamaska, and Sainte-Victoire. It is in the northern road of Yamaska that the mother (36 years old), father (45 years old), and the son (10 years old) observe a UFO located near a tree that they are approaching. It is a white, triangular object, which appears transparent and luminous like a diamond. Probably by inattention, the observers lose sight of the luminous source, and when the car reaches the area close to the tree the object is no longer there. It seems possible that the light was initially much further away from the tree than the three observers believed.

At the end of the road, the light source becomes visible once again, seemingly motionless over the Yamaska River, but suddenly it fades away on the spot. None of them are overly concerned, until they arrive in St. Louis road near Sainte-Victoire, where the young boy observes the triangle of light much closer than the previous two sightings and at a significantly lower altitude. The boy then proceeds to use 20X50 binoculars. The mother asks her husband to stop the car. When they stop, the luminous triangle is located on their left, motionless at an altitude of 70 to 100 meters. Suddenly, the triangular object emits a type of lightning downwards, like a white neon light that does not reach the ground. The lightning appears as a curtain of light that is narrower than the triangle, precisely outlined, and descends from the object at about 3 or 4 meters from the ground. The curtain of light appears for approximately ten seconds while an electric crackling sound emanates from it. A moment later, the triangle, located 30 meters away, is slowly approaching. During this approach, the curtain of light slowly fades away independent of the triangle emitting it. To their astonishment, the triangular object instantaneously moves while appearing to dematerialize and materialize. It is observed in one place, but in a fraction of

13 Vallee (1991, pp. 309-311), Isaac Koi English version: <https://www.isaackoi.com/best-ufo-cases/21-quantitative-criteria-vallees-svp-ratings.html>

14 CASUFO® case number 1705 ; Blaquiére and Leduc (1980).

a second it suddenly appears at distance of about 2 kilometers away. The boy exclaims, “Mom, there are two of them!”

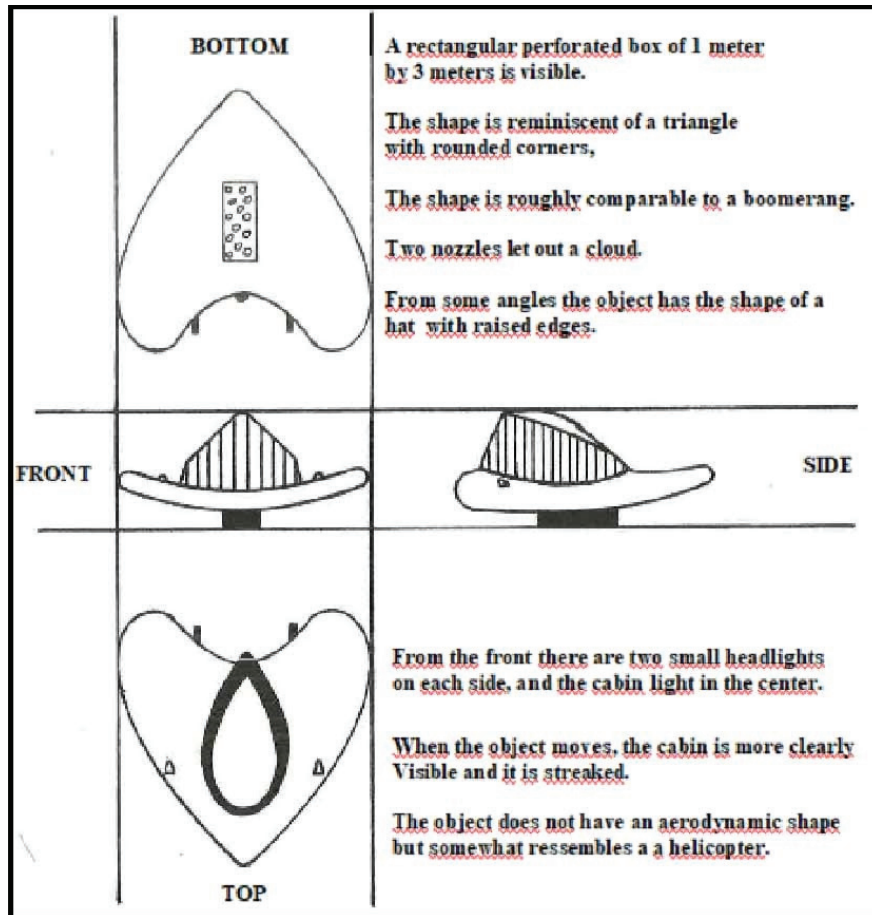


Figure 3: Reconstitution by Marc Leduc

The family resumes their journey while watching the UFO as much as possible. They look out the window to observe the UFO approaching their vehicle. After approximately 8 minutes, the triangle takes on the appearance of three headlights, while advancing slowly towards the car in a zigzag fashion. At this moment it is perhaps 20 meters from the car, which is stopped again. The object changes its course without modifying its speed, which is less than that of a person walking. At this time, the mother is persuaded that the object is not of terrestrial origin while the object is no longer a triangle with rounded corners, but tilts and takes on the appearance of a metallic mass similar to a hat. In the meantime, and in spite of their great agitation, the observers step out of the car. The husband is standing near the door on the driver's side, while the mother is walking in an area on the passenger side, and the boy is the farthest away from the car. The UFO has on its bottom a rectangular box measuring 1 meter long and 30 centimeters wide. This box is pierced with round, red, phosphorescent openings. The mother particularly recalls this exact moment when the UFO is approximately 10 meters overhead to affirm that the object could not be an airplane or a helicopter of any sort. During these moments of extreme tension—and to their amazement—all three individuals hear a noise similar to that of a jet plane passing at very high

altitude. The father states, “This is a jet.” The young boy immediately replies, “No, this is a boomerang.” The mother remains silent—to her this would be referred to as a flying saucer. The object remains motionless, although the observers are unable to be precise regarding the elapsed time at that moment. The object then moves away slowly the same as it had when it approached. After a moment, the witnesses no longer observe the object, though they can still hear it in the clear, cold night. The three people then discuss the experience with great agitation for 5 or 6 minutes, while the father later explained to investigators that he wanted to calm the emotions of his wife and son by trying to persuade them that it was only an airplane.

Next, the husband and son got into the car first. As the mother grasps the car door handle, she suddenly observed the UFO moving slowly in a perpendicular position towards the car. For a moment she is intrigued by a small headlight on the left side of the object, which is hovering majestically at an approximate altitude of 10 meters. The scale of the object is estimated to be larger than the car at roughly 7 or 8 meters. Two nozzles release a cloud above the car. The mother is astonished but not afraid. The object turns a little to the right. It makes a sort of leap so that the mother observes the top headlight, in the center, and what appears to be a cabin with what she interprets as vertical bars. From a side view during a movement the cabin is clearly striated, though she does not see anyone in the cabin. The metallic mass of the object appears to be gray aluminum. The object loses altitude as it moves away and lowers to 3-4 meters from the ground. It does not land, though the astonished mother expects this conclusion. It resumes altitude while moving away towards the horizon, flashing red. From a certain angle, the object is shaped like a hat with raised edges and at the front there are two small headlights, one on each side. The witnesses resume driving in the direction of a trailer where an uncle is living in Sainte-Victoire. At the entrance to the road that leads to the uncle’s property they notice a small luminous red ball floating around the trailer. They leave the place in a hurry and drive straight home.

There is an airport for small airplanes at Sainte-Victoire, but the witnesses vigorously deny the possibility of a small airplane. Later, the mother describes the object by comparison to a stingray, “*those animals that are flat like birds on the bottom of the ocean.*” Afterwards, the mother and her son are experiencing regular nightmares related to this experience and the boy has occasional nosebleeds. A spot appears on the mother’s left thigh in the shape of the UFO, however, investigators are unable to verify this though a physician is consulted. Afterwards, the mother begin reading numerous books on the subject of UFOs.

In this case, the following values can be assigned:

* Vallee’s SVP Reliability Scale: S: 4, V: 1 (there was no reconstitution at the various locations), P: 4.

* Hynek’s criteria: Strangeness of at least 6/10: The movements, stops, and moves were clever. Sound effects, light effects, transformations, and the emanation of steam added to the strangeness. The quietness even with the proximity is inexplicable.

Probability of at least 5/10: The duration and short distance associated with the estimated actual size of the UFO adds reliability to the observers’ description. All three were interviewed and similarities

emerged as well as differences in the versions. The account, by letter, was written shortly after the event. The observers were interviewed several months later. There is little variation between the interview responses and the content of the letter received earlier. The witnesses are very convincing in their testimony. The story coheres.

* Randles and Warrington: Level A.

Sampling Design and Comparison Groups

A technique for assessing the reliability of information in a story can be considered as an ordinal scale that relates stories to each other without quantifying their respective distances. It may serve as a sampling modality and enable the development of groups of several sighting stories of varying values. Consider Hynek's criteria, in which it is possible to place UFO stories on two scales of value and even to determine whether the stories reach a critical threshold, perhaps a value of 3/10 or 5/10, depending on the needs of the sample of stories and comparison groups.

This introduces the *Selective Appraisal Rating (SAR)*¹⁵ of the observation stories constructed with Hynek's criteria. In Table 2, above, the criteria of strangeness (S) and probability (P) are used, in addition to the 3/10 threshold and 5/10 threshold. This yields samples of stories of varying quality. The A- and B-rated stories can be compared to the C-rated stories to answer questions about the UFO phenomenon. If there is an unexplainable phenomenon that stands out from the misunderstandings it could emerge using these comparisons. The SAR can take the form of a graphic synthesis as in Table 3.

Table 2. The Selective Appraisal Rating (SAR) of UFO stories

Rating SAR	P Hynek	E Hynek	Sample values for ratings A, B, C, D, and E
A	≥ 5	≥ 5	The stories rated A represent the true sample in CASUFO [®] . ¹⁶
B	≥ 3	≥ 3	The stories rated B are a sample that is not fully explained in CASUFO [®] .
C	≥ 3	< than 3	Although reliable, a story rated C represents a misunderstanding, an explainable case, or a falsity. This is a control group in CASUFO[®].
D	< 3	≥ 3	The stories rated D are uncommon rumors in CASUFO [®] , whose probability (credibility, reliability) is too low.
E	< 3	< 3	The stories rated E are a sample that is no more uncommon than reliable The lack of information is almost complete.

15 Leduc, (2021). *Cote Sélective d'Appréciation (CSA) des Signalements Ovniens*.

16 Bank of 3,000 stories, including a useful selection of 1,500, each encoded in more than eighty fields.

The C-rated stories (i.e., with P greater than or equal to 3/10 but with E smaller than 3/10) are in principle reliable but explained. They constitute a sort of control group. Thus, the C sample used in a comparison, analysis, or experiment should not be a catch-all. To do this, the C-rated narratives are given categories that reflect decisions: **CA**, Air Transport; **CB**, Celestial Noise; **CC**, Climatic Origin; **CE**, Effect or Trace alone; **CF**, Animal or Fauna; **CG**, Geomagnetism; **CH**, Human Activity; **CI**, AstronomIcal (including satellites); **CJ**, Judgment Error; **CK**, Underground fire; **CM**, Marine Vehicle; **CP**, Perception Error; **CR**, Rumor; **CS**, Solar Origin; **CT**, Terrestrial Transport; **CY**, ParapsYchology. These categories come from explanations that have been attributed to UFO stories. Thus, category **CI** corresponds to misunderstandings with astronomical objects. Over time, more information can be found, and it is not surprising that sighting accounts with A and B ratings are downgraded to C.

Comparison Groups and Time Series

In time series, researchers generally do not compare groups of UFO stories of different values; see Sturrock,¹⁷ Poher,¹⁸ Ribera,¹⁹ Poher-Vallee,²⁰ and similar. Valuable accounts are often simply amalgamated and integrated into a whole. For example, the notion of a UFO wave appears in 1973, as well as the notion of a “*flap*” for shorter episodes of time. The same is true for the twenty-first and twenty-second hours of the day when UFOs are apparently more frequent. It appears mistaken that the characteristics of the temporal distributions are the result of UFO activity.

Temporal distributions are possible for groups of different SAR values. This paper illustrates two of them: the distribution by daytime (Eastern Standard Time, EST) in Quebec, and the distribution by day of the week.²¹

As a result, are the A-rated stories different from B- and C-rated stories in these distributions? Are the time distributions the result of UFO activity, and should we not support this idea with quality stories?

Please refer to Table 4 and Table 5.

The three contingency tests (chi-square) A/B, B/C and A/C are significant for both graphs. They suggest that the high and low strangeness cases are interrelated. This could mean that the curves depend on the observers and not the UFOs, or it could mean that there are no strange phenomena at all. Do we see UFOs because everyone is talking about them, or do we talk about UFOs because we see them? Are UFOs waiting for the observers’ free time to show themselves or are they there all the time? Would they be undetectable phenomena using these statistics?

¹⁷ Sturrock (2004).

¹⁸ Poher (1976).

¹⁹ Ribera (1959).

²⁰ Poher-Vallee (1975).

²¹ For distributions by month and year, refer to Leduc, (2019), *Vague d’Ovnis, une notion impressionniste?*

Table 3. Selective Appraisal Rating chart scale

Strangeness	10	D	D	D	B	B	A	A	A	A	A	A
	09	D	D	D	B	B	A	A	A	A	A	A
	08	D	D	D	B	B	A	A	A	A	A	A
	07	D	D	D	B	B	A	A	A	A	A	A
	06	D	D	D	B	B	A	A	A	A	A	A
	05	D	D	D	B	B	A	A	A	A	A	A
	04	D	D	D	B	B	B	B	B	B	B	B
	03	D	D	D	B	B	B	B	B	B	B	B
	02	E	E	E	C	C	C	C	C	C	C	C
	01	E	E	E	C	C	C	C	C	C	C	C
	00	E	E	E	C	C	C	C	C	C	C	C
		00	01	02	03	04	05	06	07	08	09	10
Probability												

Some researchers have questioned the relevance of establishing statistics to describe the UFO phenomenon: Fernandez,²² among others. Hall,²³ has attempted to explain the curves by correlating them with other phenomena, such as solar activity or with terrestrial magnetic activities of various origins. Fernandez,²⁴ meanwhile, raises the concept of **indistinguishability** to the effect that the levels of strangeness of the UFO cases are not distinguishable from those of the IFO cases.

In any case, it is not surprising that the contingency tests (chi-square) presented here suggest that the best samples of sighting reports still contain explainable cases. This may call into question techniques for assessing reliability and strangeness. Secondly, all temporal distributions may be related to human activity. Indeed, with respect to time of day, the accounts correspond to the free times of the observers for all SAR values. It is the same for the day of the week, in which the accounts correspond to the free days of the observers for all the values of SAR. This is equally true for the months of the year and for the years themselves according to the activity of ufologists

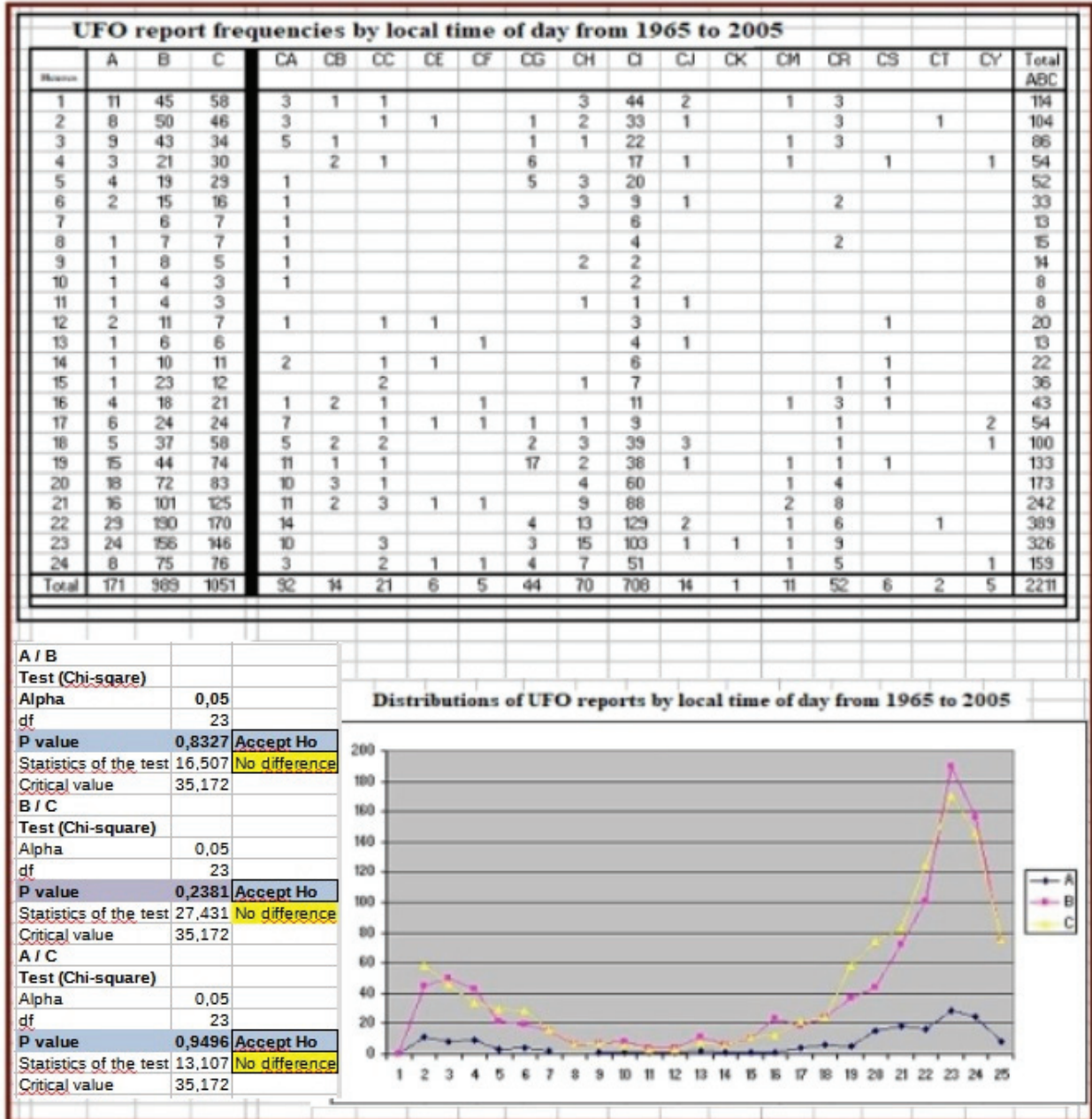
²² Fernandez (2014).

²³ Hall (1999).

²⁴ Fernandez (2014).

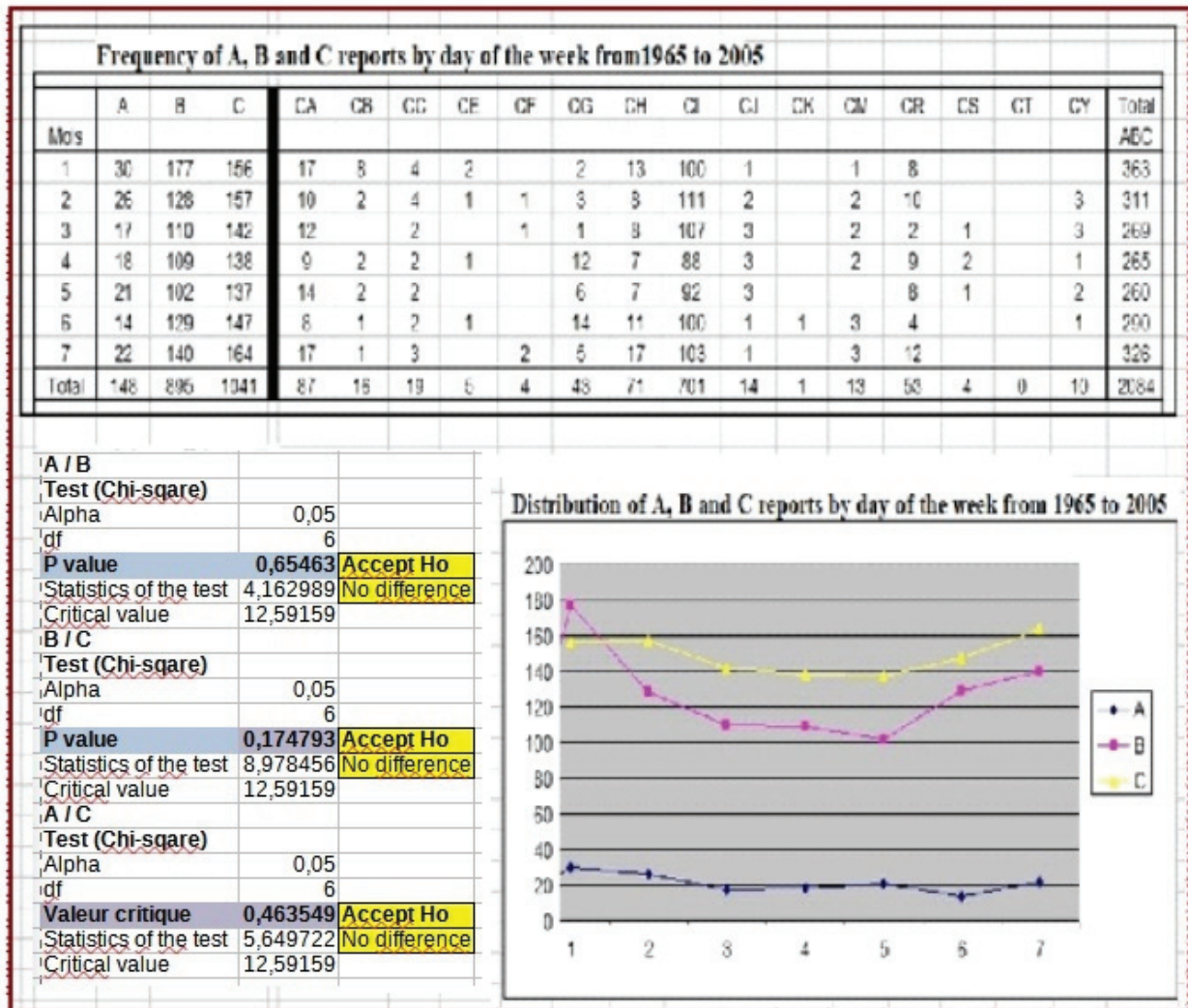
and the media activity.²⁵ On the other hand, one could also say that one must obviously be outside to observe UFOs.

Table 4, distribution by daytime



²⁵ Leduc, (2019), *Vague d'Ovnis, une notion impressionniste?*

Table 5. Distribution of observations by day of the week.



To paraphrase Hendry, who expressed himself on the entirety of UFO statistics for the United States of America:

[...] The deeper question to be asked about the significance of statistics applied to the UFO phenomenon is: do UFO statistics represent a valid pursuit for more knowledge about this elusive phenomenon, or do they merely reflect frustration that none of the individual reports are capable of standing on their own two feet? Are UFO statistics a bold first step... or a desperate last resort.

His commentary refers to information quality assessment techniques such as those compared in this article.

Conclusion

In the absence of the ability to reproduce a mysterious and unexplained UFO sighting, a judgment and criteria must be applied to the reliability of a story without fully explaining the case. Relevant techniques are available and contribute to the reasonable judgment of the information of a story. Three simple techniques have been compared and proven to be complementary. In addition, they enable the development of comparison groups of stories. When these groups are subjected to a test, such as comparing their temporal distributions, no significant difference appear. In this instance, the reliable and less reliable stories are distributed in the same way in time **and are indistinguishable**. Regardless of its nature, does the unidentified phenomenon really occur in the physical environment of the observers with its own free will, agenda, schedule, and calendar, or would it occur in the free time of the people in connection with their psyche, concerns, and culture?

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(All web articles here and in the footnotes were accessed on April 20, 2022.)

VII

EPISTEMOLOGICAL ISSUES

On the Fallacy of the Residue

Félix Ares de Blas

Abstract: It is common for many (not all) so-called ufologists to admit that 95% or more of the cases of alleged UFOs have been explained, but that there is a residue whose explanation is that they are manned alien spacecraft. I wrote and spoke about this in the late 1980s.¹ A critic would say that in all sciences there are residues and that it is these cases that make them evolve. Now, many years later, I understand that the reason for that criticism is that I may have explained myself wrongly. Today I am going to try to explain better. To do this, the first thing I have to do is differentiate between false residuals and true residuals.

Keywords: Scientific ufology, Residues, Witness interviews, Interference of amateur ufologists, Interference of media ufologists, Need for positive definition of UFO, Methodological problems of ufology, Stereotypes and perceptions, False memories, UFOs as a new religion

Fake Residues

Let's do the following mental exercise. Let's imagine an observational proto-science in which one tries to determine whether a fact is of type A or not. Right now, we don't care what that "A" is. An example might be trying to determine from the fossil record at a particular site whether there were only cold-blooded dinosaurs there or whether there were also warm-blooded dinosaurs, which are much less abundant in this paleontological excavation. Suppose 95% of the observations are extremely clear: they are cold-blooded; but that 5% are doubtful ones. Within our mental exercise, we are going to assume that, in the doubtful cases of the exhaustive investigation of the fossils, to reach a conclusion takes two years. And we will also assume that in all cases the end result will be that they are cold-blooded. There is a time interval of two years, in which there are a few unexplained cases, which we will call residual.

The existence of that residue means absolutely nothing. It does not mean that there are 5% cases of warm-blooded dinosaurs. It means that we don't know the answer yet.

Let's talk now about UFOs and more specifically about UFO observations in Spain. Let's say that we have a corpus of several thousand observations. Let's say that the ufologists, little by little, have been explaining the cases and that only 5% remain unexplained. But a curious phenomenon occurs as time goes by, some of the unexplained become explained. Actually, none of the classic cases—for which we have enough data to be able to carry out an investigation—remains unexplained. But it has taken a long time to find a solution. During that time, many more cases have appeared, of which 95% are clearly identified objects and 5% are unidentified.² Or rather, unidentified for the moment.

¹ Ares, "La Falacia del Residuo," pp. 46-48. Ares, "Magos Ovnis y Creencias," pp. 29-66. Ballester-Olmos, "Apuntes sobre la Cosa Ufológica," online link.

² In this sense, I would like to point out that none of the UFO cases that gave rise to ufology in the United States—and in the world—have withstood critical analysis. There has been an enormous amount of literature on this; in my opinion, the work of Martin Kottmeyer has driven the last nail in the coffin of classic U.S. UFOs.

Therefore, the fact that in an observational proto-science (ufology) there is a 5% “residue” means very little. It means that the proto-science is not yet mature, and little more. Relying on that to prove certain hypotheses is what I call the fallacy of the residue.

True Residues

Critics have pointed out that it is precisely the anomalies (the residues) that make science advance.³ It is obvious that in all sciences there are residues and that these can be the origin of extremely interesting new theories. To give just three examples: The retrograde motion of Mars was a “residue” very poorly explained by geocentric theory, but it was perfectly explained by the heliocentric model.⁴ This “residue” served to clearly establish heliocentrism. Mercury’s perihelion precession was an anomaly (let’s call it a “residue”) that Newtonian physics did not explain, but that the General Theory of Relativity did. The “ultraviolet catastrophe” was an anomaly that did not correspond to classical physics and gave rise to quantum mechanics, and so on.

In the development of science, anomalies are very important. I am absolutely aware of that, but all anomalies in science have very clear characteristics:

FIRST: for something to be defined as abnormal we must know what is normal. Normal must be clearly defined and in such a way that any researcher knows whether or not in the face of a certain fact (or story) it belongs to the category of normal. That requires a positive definition. The negative definition usually given to UFOs does not work, because it is negative:⁵ Unidentified.

SECOND: any study that is done must be repeatable. If someone does a study that cannot be replicated by groups of independent researchers (in this text I have used “laboratory” as a synonym), it can hardly be considered science. That was, for example, the case of Lysenkoism, and of the purported discovery of N-rays. To be repeatable, once again, it is essential that the definition be positive.

THIRD: when establishing an explanatory hypothesis for the anomaly, it must be falsifiable in Popper’s sense.⁶

FOURTH: Among various explanatory hypotheses, you must choose—or at least give special attention to—the one that introduces the least strange elements.⁷ It is perhaps good to note that although Occam’s razor is not strictly a necessity of science, but it has contributed enormously to

³ Fuentes, “Sobre La Falacia del Residuo,” online link.

⁴ To explain it, an enormous complexity of circles, epicycles, efferents, and equants had to be introduced. In the end, what they were doing was getting the equation of the ellipse by adding several sinusoids, equivalent to a Fourier analysis, which had not yet been discovered.

⁵ Why this is so, is extremely simple. Suppose that the identifiers form a set of classes of objects (or stories). The complementary set has infinite classes and therefore almost anything can belong to it. Obviously, nothing can act as a screening filter, much less make all researchers agree, which impedes repeatability of studies.

⁶ Although I have used Popper’s concept of falsification, there is little doubt that the need for falsification arises from the earliest versions of the scientific method. For example, it is clearly shown in the six steps that Francis Bacon requires of the method: Observation, Induction, [provisional] hypothesis, proving hypotheses by experimentation, demonstration or refutation (antithesis), and thesis or scientific theory. Implicit in the demonstration or refutation is a need for refutability.

⁷ Occam’s razor: *Pluralitas non est ponenda sine necessitate* (Plurality should not be postulated unnecessarily).

its evolution.⁸ An example of the application of Occam's razor is the difference between the epicycles theory (which was falsifiable) and the Copernican theory (which was also falsifiable). The theory of Copernicus needed far fewer postulates than that of the epicycles. A not always obvious fact is that Occam's razor applies to falsifiable theories. When Copernicus released his theory, it was less accurate than Tycho Brahe's epicycles, which were tremendously complex. But Copernicus/Kepler was simpler: more elegant. Both were predictive, so that a failure in the prediction would be proof that it was not working correctly. Both theories were falsifiable. It would take a long time to digress between predictability and falsifiability. Both are related. Let's just keep in mind that if a hypothesis is predictive, it can be falsified. If it is not, it is more difficult to prove its falsifiability.

Let's get to the topic of UFO sightings. There are a number of them that cannot be explained at any given time. They will be explained eventually, but by then new cases will have emerged, some of which will not have been explained yet. And many ufologists hold on to these still unexplained cases to save their preferred hypothesis.

I think this is where I probably explained myself badly in my late 1980s articles and lectures. To understand these, you have to place yourself in that time and see what the ufologists of the moment were saying and doing. A lot of them did what I explained above. Although all the cases prior to that moment in time had been explained, there was always an unexplained residue in the new ones. When I spoke of "the fallacy of the residue" I was referring to those "residues" that are different over time, those that have not yet been explained. "The old ones have been explained, but the new ones have not." That was the fallacy I wanted to point out. Although all cases are explainable, there is a delay between their appearance and their explanation, and there is always a set of unexplained cases. And that is the fallacy—it is possible that they will be explained in the future, but for the moment they are not explained. But since they do not meet any of the four requirements that a true residue must meet, that "no explanation" means absolutely nothing; rather: they mean very little.

I have also been criticized that I was making an illogical leap between the 5% of the unexplained and the fallacy of the extraterrestrial hypothesis. It should be noted that for those residues, regardless of whether they are 5% or 90%, there was nothing that forced us to think about extraterrestrial ships.⁹ They were simply events for which we had no explanation. Most of those ufologists said that no-explanation implies an extraterrestrial origin. Today, I think it is clear to all serious ufologists that unexplained means unexplained, not extraterrestrial.

To be crystal clear, I want to stress the point that experiments (or observations) on residuals must be repeatable. The retrograde movement of Mars, the precession of the perihelion of Mercury or

⁸ Occam's razor is not always applicable. There are even problems in defining what is the simplest hypothesis (for example, A. Ferrero).

⁹ Perhaps it is good to talk about Occam's razor here again: between the extraterrestrial hypotheses and other hypotheses we must keep the simplest one. What is simpler, in a concrete case, a possible mundane explanation, although not verified to be plausible, or an extraterrestrial explanation that implies ships coming from space with humanoid beings ...? I want to believe that the solution is not simple. If the mundane hypothesis is terribly twisted, it is possible that the alien is simpler and therefore eligible for Occam's razor, but it has to be seen case by case. I want to emphasize that I do not reject the extraterrestrial hypothesis simply because of Occam's razor. Occam's razor is a guide, not a rule. We should not forget that there are many discussions about what "simple" means in Occam's razor.

the catastrophe of the ultraviolet could be verified by all. In that sense they were repeatable facts. For something to become a “residue” it must be an anomaly within a hypothesis. If there is no hypothesis, it is difficult to speak of normality or anomalies.

The retrograde motion of Mars was an anomaly in the geocentric system, which was a very well-stated and well-mathematized theory. The perihelion precession of Mercury was an anomaly in Newtonian theory, equally precisely described and mathematized. The ultraviolet catastrophe was an anomaly in the classical theory of electromagnetism, again perfectly stated and mathematized. But on the subject of UFOs, when the word “anomaly” is mentioned, it is done without referring to any specific theory. If there is no theory, there can hardly be an anomaly. And here I have no choice but to insist on the idea that “theory” in the scientific sense has a very different meaning than it does in popular language. A scientific theory is the highest status that a scientific idea can have. It is something perfectly verified hundreds or thousands of times.

UFOs Speak of Observations

Observations, that is, stories, can become repeatable, but this requires a theory and a methodology. In some cases, this is what sociologists do, for example. But I must insist that they have methodologies that have proven to be effective. What is the theory of ufologists? What is the tested and contrasted methodology?

On the subject of UFO sightings, we find unique accounts, for which we do not have a methodology to do experiments/studies that are replicable. Among other reasons, this is because there is no positive definition of a UFO. Therefore, including a case on the unidentified list, or not including it, is up to the researchers’ taste or beliefs. There is no unique way to do it. As it is not unique, it is not repeatable. That lack of positive definition makes repetition impossible. But, although that is a tremendous problem, it is not the only problem. There are many more. One of them is the same as that found in all the sciences that are based on testimonies: criminologists, judges, policemen, etc. The testimonials are very fragile. The memory of the witnesses is very imprecise and, what is worse, it is highly plastic, malleable, and influenced by myths and beliefs. Criminologists, sociologists, psychologists, and others have established rigorous ways to obtain a testimony with the smallest number of possible deformations, and, even so, in experiment after experiment, it is shown that it is extremely difficult to know what is real in what a witness says.¹⁰ This happens with well-trained experts in laboratory-verified and proven interview techniques. In addition, it is done with well-known everyday subjects; for example, in a car accident, which car hit which, what color the vehicle or the traffic light were. When it comes to an unusual event, testimonials get worse and stereotypes become more important. You see virgins or witches when you believe in virgins or witches, you see channels on Mars if you think it is an inhabited planet, N-rays if you believe in them, or UFOs when you believe in extraterrestrial ships that visit us.¹¹

¹⁰ Errors are never zero.

¹¹ Buckhout, “Eyewitness Testimony,” pp. 23-39. Wixted and Mickes, “Eyewitness Memory Is a Lot More Reliable Than You Think,” online link. Ibabe, “Influencia de los Estereotipos sobre Delincuentes en la Identificación de Personas,” pp. 99-110. Otten, Seth and Y. Pinto, “A Social Bayesian Brain: How Social Knowledge Can Shape Visual Perception,” pp. 69-77. McLeod, “Visual Perception Theory,” online link. Fineman, “Sightings: UFOs and Visual Perception,” online link.

Let's go for a moment to the testimony of someone who has seen a UFO. The ufologists who are going to interrogate him usually have no training in interviewing techniques, and what is worse, many of them have preconceptions of what a UFO is. Elizabeth Loftus showed that inserting false memories into testimonies was extremely easy.¹² Prompting an answer, through the way the question is asked, is very common. So, from what I am told that the witness has said, how much is real and how much is induced by the ufologist? What is worse, once the false memory has been introduced, the witness believes that the false is the real. Therefore, if a well-trained ufologist comes after an untrained ufologist, the witness will tell the fallacies that have gotten into his mind from the first interview.¹³ (And no, I'm not fantasizing—in the United States many parents have been convicted because the interviewer on duty introduced the memory of false rapes into their children.¹⁴) Many works show that if hypnosis is used to stimulate memory, the situation is even worse: in a state of hypnosis one is more prone to lie and to please the interviewer, saying what the interviewer wants to hear. This poses a terrible methodological problem. For example, if we elaborate a statistical method to analyze the testimonies, and they coincide with the stereotypes, there is no way (at least I do not know of any, although I can imagine that some methods of covariance may work) to know if it is due to what the witness witnessed or what has been introduced as a false memory by the ufologists.

Another extremely important issue is that the hypothesis that is made to explain the testimonies (not facts) must be falsifiable. The extraterrestrial hypothesis, as it is usually presented, is not. It is an all-powerful hypothesis, that in the same way explains something, its opposite, and everything in between. The extraterrestrial hypothesis for UFOs is equivalent to the gods hypothesis for geology. Why are there marine fossils on the summit of Everest?¹⁵ Answer: because the gods made it like that. Why, if we go back in the fossil record, do we see the way in which organisms are progressively changing?¹⁶ Why do sedimentary rocks speak of an age of the Earth much higher than what the Bible says? Because the gods made the world like this. The gods hypothesis is not falsifiable. The extraterrestrial hypothesis (as it is conceived), is not either. Sure, you can make a falsifiable alien hypothesis, but I don't know of any. Non-falsifiability is a clear sign that something is just a belief.¹⁷

Finally, I would like to comment on one last detail. Back in the day, David G. López and I directed a research group at the University of Madrid (Complutense University and Polytechnic University), trying to come up with a positive definition of a UFO, so that repeatable studies could

¹² "Elizabeth Loftus," Wikipedia, online link.

¹³ I remember the Gallarta UFO landing case in Vizcaya, Spain, where we were the second group of people to arrive at the site, alerted by my excellent friend Jesús Martínez Villaro. Imagine our surprise when the witness told us that he had seen "a type II warship," as the previous "ufologist" who had spoken to him had told him. Let me omit the name of the so-called "ufologist." In such a situation, how could his testimony help us?

¹⁴ Navas-Camejo and Neira-Galvis, "Falsas Memorias y Testimonio: entre la Ciencia y la Ley," online link.

¹⁵ Tristan, "Fósiles Marinos en la Cima del Everest," online link. Allen, "How Did Sea Fossils Get to the Top of Mount Everest?" Khot, "Why Are There Fish Fossils High Up In The Himalayas?," online link.

¹⁶ Darwin's natural selection has sometimes been accused of not being falsifiable, for not being predictive. These criticisms are out of date today, but I think it is interesting to note that the prediction can not only be towards the future, it can also be towards the past: retro-falsification. Natural selection allows us to "predict" that, in the long run, older fossils are typically simpler than more modern ones. A true UFO hypothesis would not necessarily have to be predictive; it could be retro-falsifiable.

¹⁷ I have tried to do it, but have not succeeded. Maybe others will.

be carried out.¹⁸ With that definition in hand, we established a series of computerized filters to differentiate UFOs from non-UFOs. No matter how badly it was done, it was a REPEATABLE method, so that other researchers could reach the same conclusions, or else refute them and improve the methodology. It was a methodology in its early stages, with many errors, but it was a simple principle that was never continued.

One interesting thing about that study is that non-UFOs and UFOs showed the same statistical parameters. That is, the residue (UFOs) showed the same characteristics as the non-UFOs. Hence, thinking that the residue was something different—in our study—was a fallacy. The fallacy of the residue.

Using Residues to Do Science

To conclude, I would like to say that when the residual (no matter how small) is obtained from repeatable observations (which requires a positive definition), that have been obtained from interviewers trained in interrogation techniques, who have been the first to arrive, we will have to consider them worthy of being called an anomaly. It is not to be ruled out that someone invents a new methodology, which, after demonstrating its effectiveness after repeated use in several laboratories, produces true residues. Real residues, not fallacies. Actually, I have argued many times that diamonds can be found in garbage. UFO tales are essentially rubbish. According to classical wisdom, the computer-related saying “garbage in, garbage out” would leave us with no chance of finding any diamonds.¹⁹ I am one of those who thinks that “enter garbage, process properly, = get diamonds.” The problem is finding the right way to process it.²⁰ I was extremely lucky to participate in a NASA deep space project. Back then I had to sign a confidentiality agreement to be able to access the data. I have subsequently seen it published, so I believe that now the agreement is no longer applicable. When I discovered the trick to obtain images of Mars that were emitted by a very weak source, I was stunned. It was extremely simple. And it was exactly what I just said: input garbage, intelligently treated, gives precious Mars images.²¹

Once we have the real diamonds (the residue that is obtained from the garbage), to explain them we will have to develop hypotheses that are falsifiable and among all the hypotheses we will choose one according to Occam’s razor.

Therefore, my idea of the fallacy of the residue was not that 5% or 2% do not matter, but because the residue is badly obtained, it really was because the “residue” was not a residue. If, with the appropriate methodologies, residuals of 0.1% are obtained, or even of 0.000000001%, they will be something extremely interesting and worth studying. Let’s not forget that I said with

¹⁸ López and Roper, “Seminario sobre Aplicación de la Informática al Estudio del Fenómeno OVNI.”

¹⁹ Hillson, “Los Entresijos del Manejo de Riesgo,” online link.

²⁰ That, of course, is not a question of a more clever [Mensa member] or famous researcher telling me “this is residue,” “this other is not.” There must be a methodology, duly verified by several “laboratories,” that allows me to know that we are facing a real anomaly.

²¹ I will not go into details in order not to expand this paper too much.

appropriate and duly verified methodologies. The other things that many ufologists call “residues” are simply the beliefs of a group of individuals.²² Nothing more and nothing less.²³

I am sure that back then I explained myself badly. The problem is not that the residuals are few or many, the problem is how to define residual. If a residual is not uniquely defined (which requires a positive definition), whatever we get will be a fallacy.

In the extraterrestrial hypothesis, the problem, contrary to what some have said about me, does not lie in the word “extraterrestrial,” it lies in the word “hypothesis.” Hypothesis is a polysemic word that does not mean the same in science as in common language. Hypothesis in scientific language is something that is not proven, but could be and, of course, that inevitably includes that it is falsifiable and “Occam-able.” With the extraterrestrial hypothesis, the very serious problem is that it is not a hypothesis. The alien aspect does not matter.²⁴ Just as the unscientific nature of the extraterrestrial hypothesis does not derive from the term “extraterrestrial” but rather from the fact that it is not really a hypothesis, since it is not falsifiable, in the residue fallacy, the problem is that the so-called residues (anomalies) really are not such. You cannot use the term “residues” for what are just unfounded beliefs.

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²² Which, incidentally, is extremely interesting, since they demonstrate how a religion (non-falsifiable belief) is created in our time. I am not only referring to clearly religious movements, such as those described in the book *UFO Religions* (edited by Partridge), like the Aetherius Society, I AM, Heaven’s Gate, Urantia or Raëlism, I also include movements whose mythical component is less evident. I mean that the belief that we are visited by beings from other planets has infiltrated our society, with almost no evidence. The study of how an idea with such weak evidence has infiltrated and germinated between different cultures almost all over the world, becoming almost a universal myth, is of great interest to understand other social phenomena of our time.

²³ I say “nothing less” because their beliefs are very interesting for the study of many sociological aspects: for example, how a myth and a religion are born, grown and consolidated. I mean all kinds of myths, beliefs that are not based on evidence, as well as all populist politicians, or “witch doctors” of all kinds that swarm through social networks.

²⁴ Let’s understand each other, it is not relevant to the subject of this work. I would love that aliens existed and traveled between the stars, and it would be fantastic to travel between galaxies through wormholes, or Star Trek hyperspace, but my desires have little to do with reality, with Occam’s razor, or with something that can be demonstrated.

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Scientific Case Studies: Research Guidelines for Dealing with the Lack of Reliability of UFO/UAP Testimonies

Leonardo B. Martins

Abstract: This chapter discusses essential scientific research guidelines for dealing with the challenges posed by the study of UFO/UAP cases. Among the questions that will be addressed are: How to give scientific validity to the study of events that have already occurred and that cannot be reproduced under controlled circumstances? How can such a study be distinguished from the pseudoscientific detective-like efforts so common in ufology? What philosophical, theoretical, and methodological foundations are essential? This chapter is aimed especially at fellow scientists who suspect that there is no basis for scientifically oriented UAP case studies, and also at non-scientific investigators who need to understand why their efforts are often considered pseudoscientific by academics.

Keywords: Case study, Testimony, Research guidelines, Science, Pseudoscience

Introduction

In all times and cultures, people report seeing exceptional things in the sky (Jung, 1958/1997). Centuries and millennia have witnessed stories of extraordinary winged beings, chariots of fire and balls of light crossing the sky, divine signs among the clouds, and so on. Modern narratives about Unidentified Flying Objects (UFO) – sometimes labeled with the more permissive term Unidentified Aerial Phenomena (UAP) – came to compose this mosaic from the 1940s onwards, and soon included claims of contact with alien creatures, abductions, conspiracies, etc. (Lepselter, 2005; Santos, 2015).

These many facets of the UAP have varied in every respect throughout history, including described features, suggested explanations, evidence related to the occurrences, witnesses' motivations, and implications for everyday life and culture. But at least one aspect remains essential and the foundation of the others: the human element. It is always people seeing, hearing, describing, narrating, recording, interpreting. Even in the minority of cases where there is evidence of another kind (e.g., radar echoes), the human element is still inescapably fundamental to analyzing and interpreting that evidence, connecting the dots, constructing narratives, considering hypotheses, etc. In itself this is not good or bad; it is just inevitable.

This is why, over the last few decades, other researchers and I have argued that the properly scientific study of the UAP must begin with the human element. One of my interests is UAP testimonials, which are the mainstay of the genre's literature, from enthusiastic UFO publications to released or leaked military or intelligence documents.

Any subjective phenomenon – as reports inescapably are – that achieves a certain impact on people's lives and culture becomes interesting for scientific study. This is the case of reports about UAP and alien beings. Although several civil and military initiatives to study these claims have been built on other principles and/or motivations throughout the 20th and 21st centuries, sciences such as psychology, neurosciences, and anthropology, then became interested – albeit timidly – in these phenomena. These studies, including some of mine, are usually devoted to the

psychological profile of people who report alien abductions, the collective imaginary about extraterrestrials, statistics about the episodes, among other related topics. That is, the usual focus is not isolated cases, but episodes, witnesses and believers as a group: their patterns, motivations, personality traits, values, imaginary, cultural/historical context, meanings attributed to experiences, etc. Such studies are fundamental for a broad understanding of these phenomena, including the testimonies, as they depend on psychological, cultural, historical, and even biological dimensions of belief, perception, imaginary, mental health, etc. But it is not the intention of this chapter to summarize such studies. Other chapters in this book will address them, such as the one by my colleague Dr. Christopher French.

This chapter is dedicated to a point normally neglected in properly scientific studies (those submitted for the broad evaluation of scientific peers and published in academic journals), namely, the study of UAP reports, with the purpose of understanding in more depth specific cases and their nature, especially the most intriguing ones. This chapter will seek to establish some basic guidelines that support and encourage the scientifically oriented study of these episodes.

Questions that need to be answered prior to the study of any specific UAP case are: How to give scientific validity to the study of events that have already occurred and that cannot be reproduced under controlled conditions? How can such a study be distinguished from unscientific (and often pseudoscientific) detective-like attempts common in ufology? It is argued here that the answers come from the combination of several dimensions of the scientific enterprise, such as philosophical foundations and methodological and theoretical aspects that are discussed in this chapter and eventually in other parts of this book.

The Scientific Language

A fundamental aspect of the scientific endeavor is that – contrary to what many seem to believe – the addition of specific scientific elements is not enough for a research to become a science. Half science is not good science: the presence of unscientific or pseudoscientific elements is enough to tarnish a particular study or an entire research field, even if scientific elements are also present. Exemplifying this principle within the UAP field, even if one performs competent technical analysis of a photograph or a sample of barley from a crop circle, this is by no means sufficient to say that the research is scientific. In order for good scientificity to be lost, it is sufficient to violate any of the following principles or others not mentioned in this chapter due to lack of space. Depending on the severity of the violation of these principles, a research can become bad science, non-science or – more commonly – pseudoscience. A good starting point regarding such principles is the basic definitions to be used in case studies.

One of the foundations of scientific research is plain and precise language, with as little ambiguity and veiled assumptions as possible. Thus, the study of UAP reports needs to assume definitions that are essential, transparent, and without inappropriate assumptions. Given the above-mentioned importance of the human element in the UAP case studies, the main terms that we have to define precisely are allegation, experience, and belief.

Allegation

In this context, allegation and its synonyms (e.g., report, testimony) refer to the discourse used by witnesses to narrate and describe what they would have experienced (that is, what they would have seen, felt, heard, etc.). It is with this raw material that we researchers work in the first place.

Allegations are known in science in general as “anecdotal evidence,” a particularly weak type of evidence, as people can allege anything without us usually being able to verify the accuracy of the narrative, the subtle and even unconscious motivations of the witnesses, etc. This does not mean that allegations should automatically be dismissed. Allegations can be the starting point of a scientifically oriented investigation, but never the ending point. The central character of the reports in the study of UAP cases occurs through a process similar to the montage of a puzzle, in which certain pieces – in this case, the allegations – guide and facilitate the fitting of the others. Although the allegations do not constitute a probative element in themselves, they guide the understanding of the role of the other elements, distinctly favoring the different hypotheses and their respective evidence. This holds true even when the alleged witnesses are lying or distorting events, because inconsistencies can appear when we try to put the pieces together according to the reports.

Among UFO enthusiasts, there is a common belief that reports coming from people who “would have no reason to lie,” or who are “serious and responsible people,” or who are “highly trained,” such as pilots, astronauts, or air traffic controllers, are reliable. From a strictly scientific point of view, such a belief is fundamentally naïve. Even presumably honest, responsible, and well-trained witnesses are, primarily, human. This means that they bring a series of characteristics and biases that training or assumed morality can, at most, mitigate, but never erase. These characteristics include perception, expectation, belief and memory biases, inadvertently assumed cultural influences, etc. This made it possible – to recall the example of a case that I investigated and which I will narrate below – for an experienced pilot to mistake something extremely prosaic for an extraterrestrial spacecraft. Even everyday honest people can invent, distort, or believe stories for a variety of reasons, many of which are unconscious. One of the most common involuntary impulses, for example, is to distort reality to fit a person’s beliefs, expectations, or desires. Surprisingly, this effect can be even stronger among more capable people, as they will be able to use their knowledge and intelligence to, in an unconsciously biased way, collect evidence and construct complex justifications to confirm their unrealistic beliefs (Kahan et al., 2017). Therefore, a priori beliefs about extraterrestrial visitations – or that there is a banal explanation for every UAP – can bias both reports (as we will see in the pilot case below) and investigations and ponderings, as occurs when highly trained scientists and technicians make pseudoscientific claims about the theme. We will come back to beliefs later on.

To lessen the impact of these biases, a path to conclusions is needed that is external to common sense and personal beliefs. This is one of the reasons why the need for a full scientific method for UAP studies is defended here, as science has developed a huge set of resources precisely to prevent or reduce such biases, some of which will be presented in this chapter.

Another common and mistaken assumption is that multiple reports automatically validate each other due to the (presumed) similarities and the (presumed) lack of contact between witnesses. Although multiple testimonies can have more weight than one alone and can offer

complementary angles on an event, the convergences between reports can also result from numerous other factors, including cultural influence and biases of the human species, such as our tendency to see patterns and similarities where none exist. A quite common – but by no means unique – example is the phenomenon of sleep paralysis, which can provoke extremely realistic hallucinations with recurrent contours in anyone, even in the details (Adler, 2011), resulting in several realistic-but-not-real alien abductions. Another interesting example, without wishing to exhaust the subject, is the immense cultural influence caused by the journalistic misunderstanding about the “flying saucers” – which had no saucer shape – allegedly seen by Kenneth Arnold in 1947. With the rapid popularization of the term, there were even those who reported seeing something like flying vinyl discs, black, small, and with a hole in the middle (Santos, 2015). As a story spreads and is shaped in everyday conversations, more convergences can occur and become more accurate without witnesses having direct contact. They just need to be immersed in the same culture to reproduce some patterns in their reports (Martins, 2019).

The coincidence between reports, in addition to not automatically validating them, can also hide their divergences. Given the well-known human tendency to look for and identify patterns in the environment, even when those patterns are not real (Foster & Kokko, 2009), we are prone to focus on similarities and apparent connections between cases and ignore or underestimate differences. Thus, apparently coincidental reports may not ultimately be so.

Another compromising implication of the human search for patterns and associations is the common mistake among some UFO enthusiasts to consider a complete set of information to be true once part of the information has been verified to be true. I call this process “reliability generalization.” A common example of this is when a witness makes stunning revelations about some conspiracy or UFO case, then investigators confirm the verifiable part of the information (e.g., personal credentials, biography) and come to trust the story. This is an error because true and false information can coexist in the same report, and is even an efficient disinformation strategy. As a famous saying goes, “the best way to hide a lie is between two truths.”

Experience

In addition to allegation/report/testimony, another important term to distinguish is experience. Experiences are subjective events, as they take place within people and are interpreted by them. A UAP is not an experience until someone sees it, creates an internal representation of it, tries to make sense of it, etc.

The accounts in the UAP literature are verbal expressions of (presumably) UAP experiences, not the experiences themselves. The person would have experienced something and then communicated it to others. Differentiating between allegations and experiences is fundamental, as the process of communicating experiences promptly causes changes, since experiences, as they are intrinsically subjective and unique, have incommunicable dimensions. This “translation” of internal experience into communication is so complex that there are even entire areas of research in psychology and other sciences about it.

A good report is, at best, a reasonable approximation to experience. Furthermore, the experience of hearing or reading an account is also (inevitably) subjective. Each person apprehends a narrative in a way. The same account may seem, to different people, real or fantasy, exaggerated

or modest, an honest mistake or an immoral fraud. Only the original witness has access to the experience, and even then, not full access, as much of the experience has unconscious dimensions (Callegaro, 2011).

On the other hand, there are many cases of deliberate fraud, where the UAP report has nothing to do with a UAP experience. Exemplifying with a case I discovered some time ago, a man – let us call him WJ – walked home late at night and disappeared. The family was alarmed and called the police, all that drama. Some days later, WJ reappeared. He was confused, weak and dehydrated. In a frightened way, he reported being captured by occupants of a spacecraft that landed in front of him that night. He repeated his story over and over again to family, friends, and onlookers, with emotion and precision in the details. Only decades later, he confessed that he created the whole story to hide that he had spent those days in a brothel. So, we should not automatically assume that people have actually experienced what they say they have experienced, even when they appear sincere, seem to have nothing to gain, and tell their story repeatedly with meticulous precision. In fact, memory is dynamic, undergoing natural changes over time (Bosi, 2003). So, a very consistent story over time can simply be a well-rehearsed story.

Belief

In addition to allegation and experience, the third fundamental concept that should underpin the scientifically oriented study of UAP cases is – as suggested earlier – belief. Naïvely, many UFO enthusiasts believe that testimonies narrate facts, something that would be distinct from interpretations and beliefs. Since the late 19th century, psychology and related sciences have been researching how beliefs affect perception, attention, memory, narratives, etc. Today we know that perceiving and interpreting reality are processes that occur together. Going back to what was said earlier, even when we try to be objective and honest, we make certain assumptions, guided by expectations, memories, cultural learning, which underlie often-assumed belief systems without our conscious awareness (Callegaro, 2011; Dela-Coleta & Dela-Coleta, 2006).

Among the countless examples, one night I was woken up by a phone call. In an urgent tone, my interlocutor said that a giant UFO was, at that exact moment, hovering over my neighborhood. I dressed in the first outfit I could find, grabbed the camera, and went out into the street. More people were gathering there to look at the gigantic flying triangle that hovered a few hundred meters above our heads. It had lights at two of the three vertices, which flickered with some regularity. Among the excited witnesses was a retired pilot who excitedly flashed simple messages in Morse code with a powerful flashlight he carried. “They answer! Look at that!” He then flashed a “hello.” The lights flashed back, and he yelled “See? They exactly flashed ‘hello’ back!” After a few minutes, the UFO suddenly began to move away, until it disappeared over the horizon. Over the course of the next day, I went through every house in the neighborhood asking people what they had seen, what it was like, etc. Although I also saw it, I wanted to compare the different perceptions and interpretations. But there was one house, only one, whose residents refused to talk to me, pretending to be absent. At my insistence, a sullen woman opened the door, and as soon as I began to explain the reason for my visit, she screamed for her teenage son. With his head down, he came and confessed to having faked the UFO using a five-foot-long (1.5 m) kite, hovering approximately ninety feet (27 m) high. But the widespread expectation that it was an extraordinary phenomenon caused all of us – myself included – to perceive and describe the

UFO as much larger and at a much greater height against the black sky. The boy showed me where the kite was tied and the broken string that caused it to finally drift away and get lost. He had already started the construction of a new UFO-kite, motivated by the success of the previous night. The lights at the vertices of the kite were small LED bulbs, which flashed randomly – and did not convey any messages in Morse code.

This case explicitly exemplifies something that occurs in every UAP case (regardless of its ultimate nature), but which is usually less obvious to the naïve investigator: even basic aspects such as perception, memory, and basic narrative are influenced by expectations, beliefs, motivations, etc. This potentially includes skeptics as well, who may perceive and interpret in a conservatively biased way some eventually exceptional UAP.

All this does not mean that any effort for less biased reports is sterile. The point is that any scientifically oriented study of UAP experiences and narratives must seek to map the witnesses' implicit beliefs and assumptions. An additional caution here is that many witnesses say they were skeptical before the experience, which is not necessarily true for at least two reasons: (1) often, saying that they were previously skeptical is just a strategy to give additional credibility to the account; (2) beliefs have unconscious components, so many people have implicit beliefs that are distinct or even contrary to their explicit conscious beliefs (Callegaro, 2011).

Unfortunately, however, a brief examination of UFO literature – including military and intelligence documents – is enough to uncover a counterproductive terminological inaccuracy that needs to be fixed immediately. Allegations, experiences, and beliefs intermingle in sometimes explicit and sometimes subtle ways, leading researchers and enthusiasts to wrongly assume, for example, that narrated history is experienced history, that the witness's convinced belief about the extraterrestrial or meteorological origin of a UAP means that it is the correct explanation for the experience, and that the terms and estimates from the witnesses are objective.

The Construction of Knowledge

Science, as a way of knowledge, and its particular ramifications have both general and specific philosophical bases. This is due to the inescapably indemonstrable character, in strictly empirical terms, of necessary starting points for the scientific endeavor, such as the human possibility of understanding the universe, the reliability of measurements of phenomena, and many other topics. The existence of a specific field within philosophy to debate these issues – the philosophy of science – does not allow us to forget its complexity and importance.

For the scientific study of UAP cases under solid philosophical foundations, one of the central questions concerns the type of reasoning that would support the efforts. The three essential types of reasoning are: (1) deduction, in which general principles support conclusions about specific cases; (2) induction, in which particular cases make it possible to formulate general conclusions; (3) and abduction, by which particular elements and knowledge are configured for the emergence of plausible explanations for particular cases (Peirce, 1974).

Philosophy and theology are famous for using deductive reasoning, as when general assumptions (e.g., divine infallibility) are used to support particular conclusions (e.g., a particular holy book is infallible). Science is best known for its relationship to inductive reasoning, so the accumulation

of findings from particular studies allows for a general conclusion accepted by the scientific community. On the other hand, abductive reasoning is important for activities or domains in which the gathering of elements or clues is necessary for the construction of reasonable hypotheses about some phenomenon or event. The classic example of abductive reasoning is the detective. As we can see in the imaginative and surprising conclusions of Sherlock Holmes, abductive conclusions emerge from a sudden understanding of a specific reality that takes – abducts, in this sense – the thinker. Despite these specificities, the three ways of reasoning are important and can interact dynamically.

Abductive reasoning does not guarantee truths or certainties – although the thinker may be taken by a greater sense of clarity – but a greater plausibility of a given explanation in relation to others – although it may still be wrong. That is because there are several possible ways to put the pieces together, there might be some crucial information missing, etc.

Abductive reasoning is also important in scientific daily life, which is easier to perceive in the construction of hypotheses and in case studies. Such a form of reasoning can play a key role in the study of UAP cases, with the aim of discovering, as a detective would do, more plausible explanations for the mystery represented by particular occurrences.

A relevant academic precedent for the study of UAP experiences that brings us closer to detective work is History. As a field of knowledge, History makes a similar investigative exercise, using historical documents and other records as clues to be organized towards a reasonable conclusion about a particular, unique historical fact that will not be repeated. Ginzburg (1991, p. 169), discussing the construction of knowledge in History, summarizes that “when the causes are not reproducible, all that remains is to infer them from the effects” (free translation). In a complementary way, given the natural human limitations for the construction of knowledge about past irrecoverable events, “if reality is opaque, there are privileged zones – signs, indications – that allow it to be deciphered” (Ginzburg, 1991, p. 177, free translation).

The research of UAP cases intends something similar, in the sense of combining elements (clues, indications, evidence) to formulate one or more reasonable conclusions about an episode that will not happen again. It is true that episodes of a similar nature can occur again, but the particular case occurs only once, which has served as a reason for some scientists to resist the properly scientific and widely accepted study of these episodes.

Indiciary Paradigm

The epistemology of history can provide some elements to face this apparent problem, as it also has to deal with past and unique events through clues and evidence. Ginzburg (1991, p. 145) compares the historian precisely with the figure of Sherlock Holmes in what is called the indicial paradigm. In this method, the collection and interpretation of evidence – with special attention to subtle evidence – builds a response to a given event. Plausible conclusions derived from the gathering of clues lead to one or more narratives about the past (e.g., in the case of the detective and the historian), the present (e.g., in the case of medical diagnosis) and the future (e.g., in the case of medical prognoses and the divinatory arts) (Ginzburg, 1991). Even psychoanalysis (bringing us even closer to the subjective element) recognized, in the figure of its

creator, its direct relationship with the indicinary paradigm of the art historian (Ginzburg, 1991). In this regard, Freud (1914/2011, p 2854) wrote that:

Long before I had any opportunity of hearing about psycho-analysis, I learnt that a Russian art-connoisseur, Ivan Lermolieff, had caused a revolution in the art galleries of Europe by questioning the authorship of many pictures [...]. He achieved this by insisting that attention should be diverted from the general impression and main features of a picture, and by laying stress on the significance of minor details, of things like the drawing of fingernails, of the lobe of an ear, of halos and such unconsidered trifles which the copyist neglects to imitate and yet which every artist executes in his own characteristic way. [...]. It seems to me that his method of inquiry is closely related to the technique of psycho-analysis. It, too, is accustomed to divine secret and concealed things from despised or unnoticed features, from the rubbish-heap, as it were, of our observations.

The investigation of UAP testimonies finds, therefore, in psychoanalysis – even if it is not a psychoanalytic investigation – one more element: the notion that not only is the work of unveiling the reality of a particular case like detective work, but also that aspects not deliberately controlled can be decisive in the elaboration of more plausible explanations. In other words, it is an “interpretative method centered on residuals, on marginal data, considered revealing” of a distant reality (Ginzburg, 1991, p. 149, free translation).

This does not mean that the central aspects should be ignored or underestimated. Going back to the art historian, we will not even need to pay attention to fingernails and earlobes if the painting obviously differs from the original. But, in several cases that interest us here, it was precisely unsuspected details that shed light on the investigated phenomenon, because, if the most obvious or salient elements commonly already allow the recognition of natural or artificial phenomena already known by science, the most challenging UAP cases already passed that point, and the investigation must proceed through the subtle details. The genius of Sherlock Holmes begins, precisely, in the accurate perception of subtleties that others ignored or underestimated.

The medical semiotic model, in turn, which involves both observation and classification of clues, is related to the indicinary paradigm as well as to other diverse fields of knowledge, in all times of humanity, including hunting (in which clues left by animals are interpreted and followed), “psychic” readings (in which the querent provides countless clues to a sagacious and intuitive observer), a good part of the human sciences (in which social and individual realities seek to be understood through their punctual manifestations), and semiotics itself. Regarding such different applications of the indicinary paradigm, Ginzburg (1991, p. 156) points out that “these are, in fact, eminently qualitative disciplines, which have as their object individual cases, situations and documents, as individuals, and precisely because of this they reach results that have an inescapable margin of chance” (free translation).

That said, in history, in psychoanalysis (and in clinical psychology in general), in hunting, and in detective investigation, the interpretive element is fundamental to connect the dots and bring out a plausible conclusion: the historical sources, the patient’s behaviors and speeches, the depth and size of the footprints, from all these things there emerges a narrative that gives coherent meaning to the whole, proposing causes for the observed effects, etc. (Ginzburg, 1991). The coherent and plausible narrative, which gives meaning to the set of clues, is the end product of the indicinary paradigm. This is what is intended with the scientifically oriented study of a UAP event.

Different interpretations lead to different results. In this way, the same evidence can lead to different and competing interpretations, which become the focus of much of the specialized debates in history. What is advocated for the study of UAP cases, therefore, is that different interpretations of the evidence be listed and analyzed, with the aim of pointing out the different degrees of plausibility and probability of each one, in addition to its power to give meaning to the set of clues and evidence. The conclusion sought in the case study, therefore, is not the punctual affirmation of an ultimate reality without competitors, but the establishment of a hierarchy of explanatory and respectively evidenced possibilities.

Usually, rudimentary forms of this procedure are carried out by ufologists and UAP enthusiasts. However, the deviation from scientificity occurs in several moments of this endeavor, as discussed in different moments of this chapter. One of the most common deviations from scientificity in ufological investigations is precisely due to the insufficient observation of the criterion of parsimony.

Parsimony, Causality, Possibility, and Probability

A central criterion for weighing the different hypotheses and theories that organize the evidence must be the principle of parsimony, also known as the principle of economy of hypotheses and as Occam's Razor. According to this principle, initially suggested by the Franciscan monk and philosopher William of Occam (1288–1347), if there are two or more suitable and possible competing explanations for something, one should opt for the simpler one, understanding "simpler" as referring to the one that contains fewer elements and/or elements about which there is already consolidated prior knowledge (Pecker, 2004). The principle of parsimony is so fundamental to the construction of scientific hypotheses and theories for two basic reasons:

(1) Simpler hypotheses about everyday phenomena are more likely to occur than their more complex counterparts, given that the arrangement of less numerous and/or known to exist variables and processes is more likely than the arrangement of more numerous variables and processes, even more so when there is no certainty about its existence. That is, the more independent assumptions that are necessary as prerequisites for a given explanation, the greater the probability that at least one of these prerequisites is false, even leading to less accurate predictions (Forster & Sober, 1994).

(2) Considering the pragmatic dimension, simpler hypotheses are more easily investigated and, eventually, subject to corroboration or refutation, which legitimizes the investigation of less parsimonious hypotheses only if and when the simpler ones are discarded by the initial investigative enterprise. Thus, simpler hypotheses are not necessarily adequate in a given case. But, as much for their probability as for their pragmatic character of investigation, they must demarcate the starting point of the investigation. In the event that the investigation has already reached its limit of feasibility, the simplest remaining hypothesis should prevail, discarding unnecessarily complex hypotheses until any new evidence emerges.

As an illuminating example taken from cases I investigated, a young Brazilian woman reported being visited in her bedroom by aliens, while her boyfriend was lying in a deep sleep. Unable to move and call for help, she was reportedly levitated by a light through the ceiling, having been

transported to a spacecraft and confined, in her terms, in a sort of “glass coffin.” Through the lid of the “coffin,” a kind of tube descended and connected to her navel, blowing air and inflating her belly until it gradually acquired the suggestive appearance of advanced gestation. That is when the aliens would have delivered a human-alien hybrid fetus and returned the young woman to her bed.

Despite the multiple explanatory possibilities for the case, supported by various possible belief systems, sleep paralysis emerged as a simpler hypothesis because it appeals to such a phenomenon known to science – to the detriment of the controversial existence of alien abductions – and which requires fewer variables, as a relatively common sleep disorder characterized by punctual brain processes – to the detriment of aliens who should be able to come to Earth, take an interest in human reproduction, develop a scientifically complex body of knowledge about hybridization between humans and their own species, produce virtually instantaneous full-term pregnancies, etc.

If the most complex hypothesis (i.e., the young woman was actually kidnapped by aliens) constituted a starting point, the investigation could be extended indefinitely, due to the difficulty or eventual impossibility of demonstrating the eventual presence and intervention of such technologically much more advanced aliens, able to use that advantage to hide themselves. On the contrary, by starting the investigation with the simplest hypothesis, it was not only possible to find evidence of sleep paralysis in the case and throughout the life of the young woman, but it was also discovered that the air tube and instantaneous pregnancy (not common in the UFO literature) coincide entirely with a striking scene from the famous television series *The X-Files*, which the young woman had avidly watched as a child.

Important at this point are the conceptual distinctions between possibility, probability, and certainty. Enthusiasts’ unscientific investigations tend to seek certainty, which can be seen in their usually bold and confident statements about the nature of the UFO phenomenon. However, their bolder propositions, which usually appeal to aliens, are at best unparsimonious possibilities, as they usually do not sufficiently consider the simplest hypotheses.

Popper (1959) points out that science does not seek certainty, given human fallibility and the intrinsic methodological limitations of science (and of any form of knowledge), but the reduction of uncertainty, of the margin of error inherent in knowledge. Uncertainty, therefore, always remains at some level, motivating intellectual humility and the search for new knowledge (Clegg, 2010). Thus, it is axiomatic that the ultimate objective of the study of UAP cases (as in science in general) is not the certainty of what happened, but the construction of possible and plausible theories, progressively less uncertain, that organize the evidence in the most coherent and likely way. Thus, in the end, there may be more than one explanatory theory for the same set of evidence, each accompanied by a certain probabilistic weight and degree of uncertainty, even if this is qualitatively established.

Still about the limits of the indicial paradigm, since it is usually not possible to measure the phenomenon directly, because what happened is already over, it is possible to measure its effects on the environment and culture. The modern historian makes a similar attempt; for him it does not matter if the thing happened in a certain way, but what can be said from the physical, social,

and historical impacts left by that event. So contemporary historical studies tend to be carried out on the assumption of an insurmountable otherness: although current historians often cannot state the precise facts (to take an extreme example, if the witches of centuries ago really practiced some supernatural form of witchcraft), they can write about what happened from the perspective of the people of the historical period in question, as this had effects on the environment (continuing in the same example, people of past centuries actually believed that witches performed supernatural feats). The same can be said of any form of environment, including alleged landing marks, radar echoes, and photographs.

It is worth remembering that this relationship of the contemporary historian with his/her conclusions is dependent on the nature of the historical elements: if there is only (or predominantly) cultural/subjective evidence of historical events, the conclusions cannot go beyond the sphere of uses and meanings that people attributed to the event in their own historical period. Claims about concrete occurrences depend on the available evidence. In the case of the UAP, there is a similar dependence on the nature of the evidence in each case. These can also allow conclusions about its nature, as when it involves additional elements to the meanings attributed by those involved, such as laboratory tests, filming, radar records, etc. But we have to consider that much of what we can achieve in UAP case studies is subjective, with little or no possible statement about what would have happened “objectively.”

As for the hunter, the physician, and the detective, it is axiomatic for the UAP researcher that the case evidence has causes and/or related phenomena. That is, even though the initial elements of this chain of events are initially or ultimately unknown, footprints presuppose animals that have previously left them, symptoms come from diseases, murders require killers, and UAP experiences involve known or unknown phenomena. In this sense, Ginzburg (1991) points out that the deciphering of evidence intends to “infer the causes from the effects” (p. 153). The same goes for the UAP. In the eventuality of acausal phenomena, in which the psychological literature finds an example in Jung’s controversial synchronicity (1928/1983), one could precisely evoke the notion of associated phenomena, which could be described or narrated without the determination of a causality. Considering the aforementioned principle of parsimony, this would be the last case. At first, we looked for causality since this is a simpler and more familiar form of relationship between the phenomena in nature.

General principles of puzzle-solving are extremely helpful in putting together a particular puzzle. General theories and taxonomies of the effects linked to UAP experiences – derived, precisely, from the cumulative study of cases of the same category – can play a crucial role in the conclusion of a particular case. Returning to the previous example, the discrepancy between the patterns of alien abduction reports and the aforementioned narrative of the young woman played a role in the construction of the hypothesis regarding the television series *The X-Files*.

Replicability

Replicability is especially important for science as it allows different researchers to evaluate the same data, hypotheses, and theories, reduce personal biases, smooth the edges, and reduce the margin of uncertainty about conclusions. Replication can occur, in the study of UAP cases, in at least two ways: (1) different scientists analyzing the same data set about a case, and (2) research of different cases leading to conclusions that can be compared in search of patterns.

On the first one, the replication of a particular case study demands something uncommon among UFO enthusiasts: the sharing of the original data. Many ufologists think of the cases they investigated as “their cases,” in a jealous posture. As an extreme example of something that occurs to varying degrees on a daily basis, I have heard of at least one veteran ufologist asking to be buried with his case files so no one else can access them. While we need to consider potentially sensitive questions about the identity of witnesses, for example, this secretive and even jealous behavior runs counter to the logic of science, which relies so heavily on replication. This strongly undermines the construction of a truly scientific UAP field of study.

About the second, just as evidence derived from a single case may be faked (and such falsification may eventually not be elucidated), historical documents, even if authentic, may reflect author biases that are deliberately distant from the historical facts to which they refer. Therefore, replication, in its broadest sense, presupposes studies on other representative cases of the same phenomenon, in search of confirmatory patterns – which includes the aforementioned taxonomies.

Replicability and generalization raise some fundamental points about the properly scientific case study. One is that investigating a specific case is not enough to design a scientific case study. To do so, this case must have relevance in the scenario of the theme – in our case, relevance for the understanding of the UAP. A case study simply raised on any particular episode can make the enterprise superficial and irrelevant in the context of the theme. Ideally, the case to be studied should have at least one of these characteristics (Yin, 1984): unique/rare (e.g., a case with thousands of witnesses over a very large territory); extreme (e.g., a case that combines several characteristics, such as a radar record, several independent eyewitnesses, marks on the ground and excellent quality footage); decisive to test a hypothesis about the UAP (e.g., an eventual case in which the UFO was tracked from deep space to entering the atmosphere of Earth, proving to be extraterrestrial); or revelatory, by allowing access to something previously unavailable to scientific investigation (e.g., an eventual case in which an abductee managed to scratch one of his/her captors and bring, under his/her fingernails, a small sample of alien DNA). This is true for case studies in general. For UAP cases, these requirements should be less imposing, as the phenomenon itself is peculiar and still little-investigated scientifically. But these requirements must remain as a reference for the election of the most relevant cases worthy of investment of time and resources in the investigation.

Once the study takes place on a relevant case, the results, contrary to stereotypical views of case studies, can be generalized. There are at least two ways to generalize case studies. The first is the analytical generalization, in which conclusions about a given case can generate broader theoretical propositions, which can then be applied to the understanding of other cases and the phenomenon as a whole. There is also the naturalistic generalization, in which rich descriptions and narratives about a given case enable other researchers to better understand another particular case (Stake, 2000; Yin, 1984). Faced with these generous possibilities of generalization, the stagnant study of the UAP could significantly advance by encouraging scientifically oriented case studies, which would contribute tremendously both to the improved understanding of other particular cases and of the phenomenon as a whole.

In turn, the indicial study of the nature of UAP needs to assume that the causes of experiences and narratives can be known through investigation. Although, in a given case, such causes may effectively not be revealed, it is axiomatic that, potentially, they could be revealed, either in the past and/or present, or with the future development of adequate resources. In the case of eventual anomalous phenomena whose nature could possibly reside in dimensions inaccessible to science, the pragmatic character of the axiom reveals its importance: the search for answers to a given phenomenon intends to force scientific evolution as has happened countless times in the past, to eventual limits that could not be foreseen. This perspective is echoed in Clarke's so-called 2nd law, which points out that the only way to unveil the limits of what is possible is to venture beyond them, entering the domain of the impossible (Clarke, 1962/2013). In other words, the eventuality of an ontological barrier to knowledge should not discourage investigation, because it both motivates the development of investigative resources and pushes the limit of what can actually be known.

I argue, therefore, that the epistemology underlying the indicial paradigm allows the scientific study of unidentified aerial phenomena. That said, some methodological aspects need to be defined.

Methodological Aspects

Case studies are not characterized by specific methods (Stake, 2000). The uniqueness of each case will dictate the most adequate methods and, by extension, the most adequate sciences. UAP cases can include laboratory tests, statistical analysis, and interview techniques, as well as, in general, sciences such as physics, chemistry, psychology, anthropology, and history. All of this characterizes the field as intrinsically multidisciplinary and interdisciplinary – and perhaps transdisciplinary.

However, the aforementioned central character of the reports places psychology and other sciences that study the human being, with their corresponding methods, as essential in the study of UAP cases. The subjective, social, and biological dimensions of the witnesses must be analyzed, with greater or lesser weight depending on the specificities of the case. This makes it possible for certain methods to play a significant role in the case study, such as interviews, ethnography, psychological tests, neurological examinations, experiments, and reconstitutions.

One of the first research methods that stands out in this context is the interview. If the UAP firsthand experiences and associated reports are typically the elementary raw material of the case study, its protagonists are the main and immediate source of data. In this way, the interview becomes crucial as it is the method that allows accessing such witness data. The interview is a qualitative method of data collection, through which the researcher and the researched establish a structured and objective-oriented question-and-answer dialogue. Some principles are fundamental to the interview in general, while others are specific to the study of UAP experiences. In a research context, the probability of obtaining more and better quality data tends to be directly proportional to the quality of the relationship established between researcher and researched, which highlights the importance of the rapport (i.e., the creation of a relationship between the people based on welcoming, listening, sympathy, and empathy) (Martins, 2013).

It is necessary for the practice of interviewing in the context of UAP experiences that researchers do not ignore psychosocial aspects involved in the cases and avoid tendencies to pathologize. It is also necessary to point out the challenges that the unusual (and even outrageous) character of the experiences can represent for researchers and their beliefs, the necessary “neutral” and pleasant posture in front of the interviewee, the theoretical and methodological preparation of researchers for the specificities (sometimes decisive) of the types of experience, and the flexibility to deal with unforeseen and natural course changes in qualitative research (Martins, 2013). All this enhances the emergence of relevant content for research and the psychological dynamics associated with memory and testimony. Martins (2013, p. 20) points out:

During the interview, one way to optimize the research on memories is to seek, through subsequent exploratory questions, the “constants of memory” (Bosi 2003), understood as tension points between social signs and individual memory. These points are located in the border areas between the stereotypical representations, presented as automated and straight speeches, and subjective processes that require from the individual an effort of elaboration, expressing [...] [his/her] idiosyncrasies, doubts, hesitations and silences (see also Bourdieu 1993). Often, the constants of memory have significant emotional contents and there may even be distress by attrition between social seals of [subjective] authenticity, because they are beyond the stereotyped speech conditioned by culture [...] [and training].

A fundamental point is that, contrary to the confident and supposedly justified expectations of some enthusiasts, the determination of the veracity of the testimony (remembering that this subjective veracity does not correspond to factual veracity because of the aforementioned human biases) is not secure based solely on the analysis of the interviewee’s verbal and non-verbal communication. Analysts’ confidence in their own ability to detect lies is typically much higher than their real ability and even the real scientific foundation of their techniques (e.g., Denault *et al.*, 2020; Levine, Serota & Shulman, 2010). While there are some interesting results with the use of machine learning and other complex techniques, it is critical to note that the accuracy margins in truth/lie detection make more sense in a sample of reports. In other words, even if there is a margin of around 70% of accuracy in the studied samples (as in Matsumoto & Hwang, 2015), the analysis of a particular case using only these resources assumes a risk of error much higher than is suited to the rigors of science.

The reconstitution, when it occurs, is part of the interview, although, paradoxically, it is rarely commented on. My experience confirms the importance already given to reconstitution, by police investigations, as the interview at the site of the experience, together with the pointing out of directions, durations, and so on, was crucial for additional details of the cases to emerge, frauds to be uncovered, and occurrences to be deeply understood. The functioning of memory – such an essential element for the interview – highlights the importance of reconstituting and returning to the site of the experience. Martins (2013, p. 21) recommends that:

the interviews occur over significant places, which help in contextualization and evocation of memories, complementing lacks of content and eliciting emotions. While an overlapping of past and present, memory can be stimulated when the experiencer returns to places directly related to the topic of the interview, even if they are modified by the effects of time and cultural changes, and that the respondent has also changed in many aspects [...]. Therefore, although there is a strong possibility that such places may help the interviewee to recall specific details, they also fuel the dynamism in which memory works. In summary, the return to significant places needs to be

contextualized in the research planning with realistic expectations and used in all its fertility as a trigger for data.

Conclusion

In short, the scientific study of UAP cases is possible and desirable, as long as we properly understand their place in the general science landscape. As the topic is sensitive, touching on beliefs and disbeliefs that are commonly very rooted, philosophical, theoretical, and methodological, maturity is essential for researchers to draw conclusions based on the characteristics of the phenomenon, not on their own worldview.

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The Reliability of UFO Witness Testimony

When ordinary citizens claim to have extraterrestrial encounters, such as seeing UFOs or meeting with alien beings, what should we think? Did the alien abduction really happen or was it a hoax? Is someone deliberately lying? Are they false memories? Readers will be enthralled by the fascinating case histories that are presented in The Reliability of UFO Witness Testimony, a volume where 60 experts examine these issues with depth and insight. These cases teach us a great deal about how humans come to believe they have experienced bizarre events that may have never occurred at all.

Elizabeth Loftus, Ph.D.
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This captivating book will appeal to anyone interested in UFOs (and who isn't?), the vagaries of memory, eyewitness perception and misperception, critical analysis of puzzling phenomena, and evaluating scientific vs. pseudoscientific claims. This volume ranks in the elite category of essential reading for students, scientists, and the seriously curious among us, and therefore has my highest recommendation. Bravo!

Steven Jay Lynn, Ph.D.
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Claims of UFO sightings and experiences continue to fascinate us. This book has collected a unique and diverse set of case studies and critical articles on how such experiences unfold and what the authenticity of these claims is. The collection of these different articles is truly groundbreaking and is the first ever complete assemblage concerning the validity of UFO testimony.

Henry Otgaar, Ph.D.
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In referring to extraterrestrial contact, Carl Sagan said that extraordinary claims require extraordinary evidence. This fine book seeks to contextualize what such evidence entails. Its contributors analyze UFO sightings and cases both famous and obscure, recent and historical, and quite international in scope. They draw from an impressive range of methodological, academic, and scientific perspectives, and consider such topics as the nature of cognition, memory, types of belief and testimony, psychology, and the rationality of belief. Skeptics, believers, and scholars of ufology will all find this book fascinating!

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